

SOUTHERN PACIFIC RAILROAD
RECORDS

IO #44

SACRAMENTO DIVISION
ENGINEERING FIELD BOOK

BERT VALENTINE

July 1917
to

Val.

Book #1

DEATH BOOK

1880

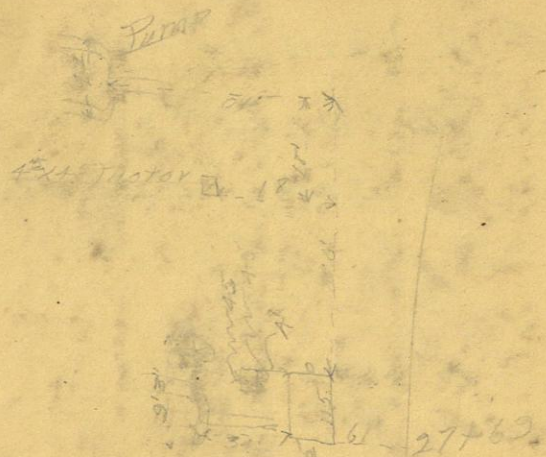
BW Valentine

1509-6 L.H.

Sacramento

Calif

4X5X64-Wood Bx



4 187
Index in back of book

Addresses

Mr. Henley is in favor of
an agreement for pipe on
our property

Clermont 72+85

Gordon Sold to
George Haman now
occupied by Doolan.

N.C.R. Over Head Crossing

Williams

203297

Initial Pt.

21965 N.C.R. Pole L 58' Out

21965 N.C.R. " " R. 63 " "

4148 " " " R. 190' " "

6403 " " " R. 190' " "

87 51 58 63 127

2032

← Sacto.

203 190' 1

148 190'

203297

New Castle 7/2/17

25104245

Initial Pt.

25104982 End of Pipe Line 149' Out L

2507455 Angle in Pipe Line 167' Out L

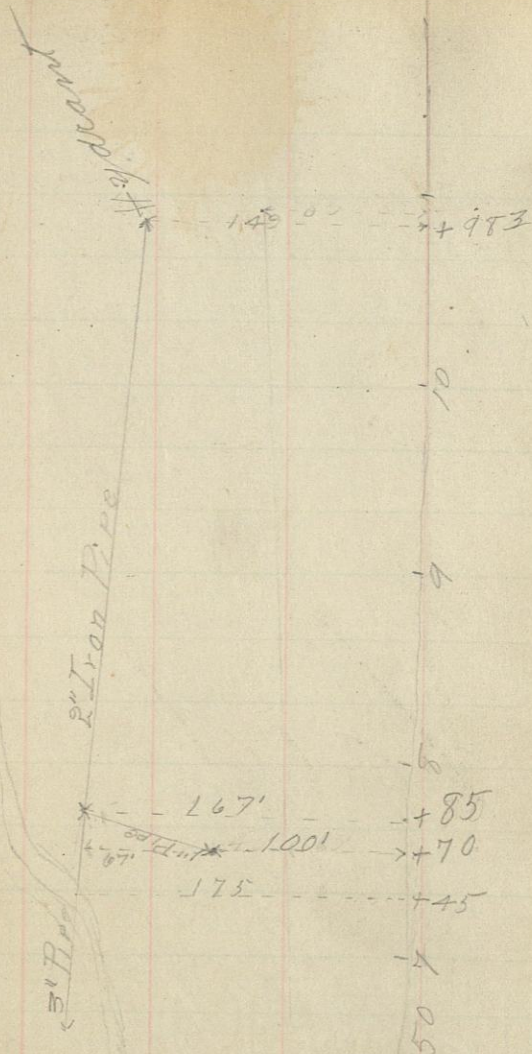
2507470 Hydrant 1" Pipe 100' ... L

2507472 Main Pipe 3" 167' ... L

2507445 ... Crosses P.G. & E Ditch 175' Out

Void

2



Colfax 7/7/17

Rescue Hose Co. Fire House

1491+57 Spt. S.W. Initial Pt.

6+97 Cor of Hose House 1702 Out

87.4 32.2
1702

1702 - - - 1497

Freight & Show
Platform

Siding Track

+20
6

6

East Bound Track
1491
+57

East Bound Track

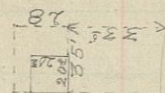
Colfax 7/7/17

Rescue Hose Co. Fire House

149.457 Spt. S.W.

Initial Pt.

61-77 Cor of Hose House 170² Out



170²

1497

Freight Shed
Platform

Siding Track

1420

6

5

East Bound Track 7

1457

1491

East Bound Track

Chico 7/10/17

Diamond Match Drain Pipes + Fence

20+55

Initial Pt.

21+30 4" Iron Pipe

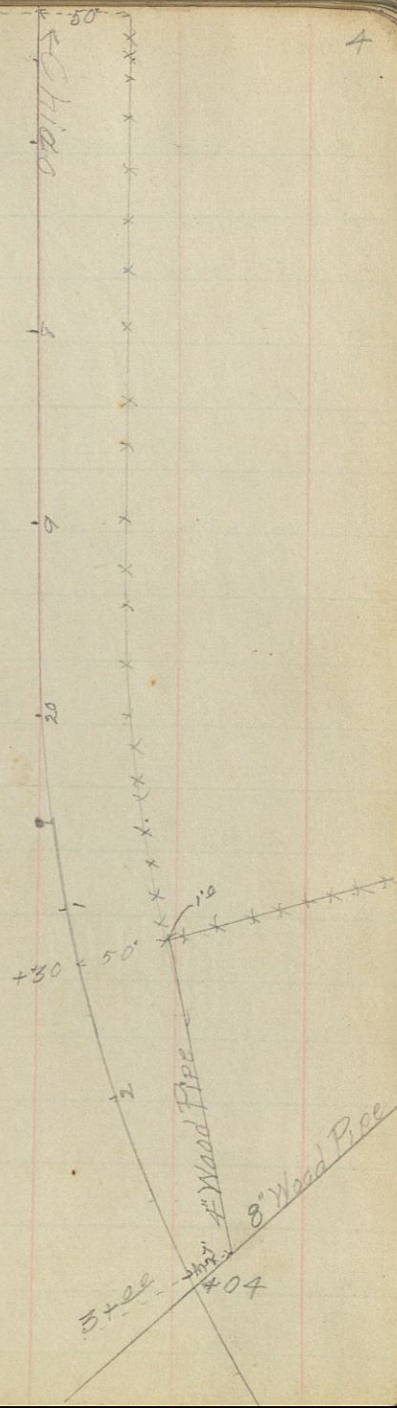
51' Out L + Fence 50' Out

3+00 Intersects 8" Wood Pipe 27' Out L

3+04 8" Wood Pipe runs under track

4" Iron pipe drain pipe from
coolers + mixer. 8" Wood pipe
drain pipe from main factory

Mr. Clinton says "he has
lease for 5" pipe" and that he
also obtained permission
from Supt. office to lay
4" Pipe"

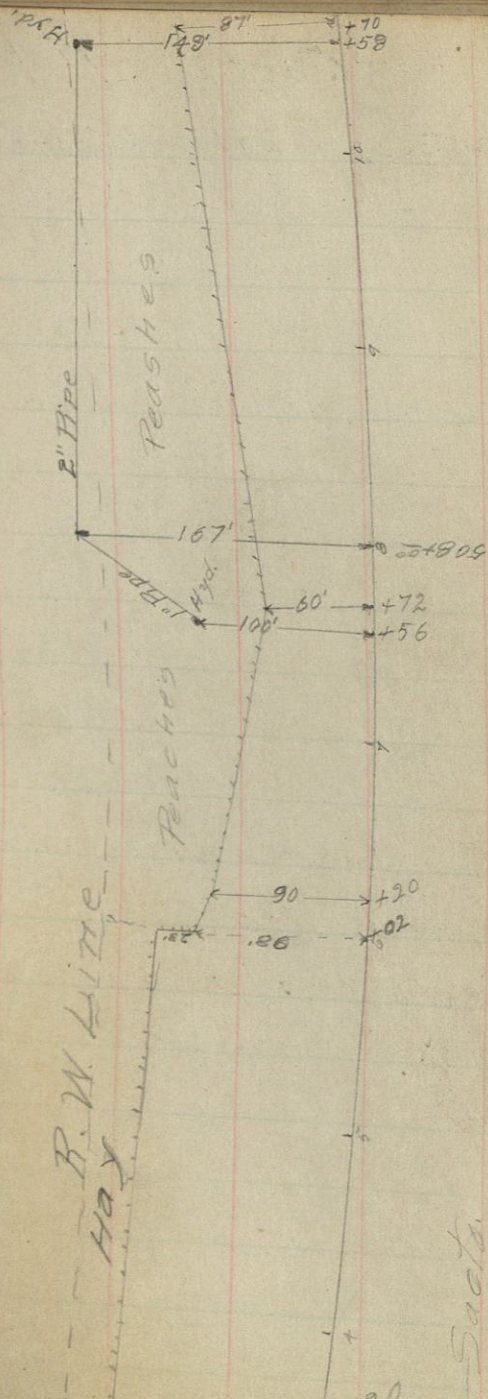


New Castle 7/13/17

Mrs E. R. Perrys Pipe Line Peach Orchard

Initial Pt.	
10+70 R.W. Fence L	87' Out
10+58 Hyd. L	149' "
8+00 Angle in 2" Pipe Line L	167' "
7+72 Join in R.W. Fence L	60' "
7+56 Hyd 1" Iron Pipe L	100' "
6+20 R.W. Fence L	90' "
6+02 " " " L	92+121' "
3+70 " " " L	120' "

Mrs Perry says "she is very willing to lease the S.P. property that she is using + also the pipe line."



Woodland 7/16/17

M.A. Woods Telephone Line

Initial Pt.

9+10 W.T. Pole L 29' Out

9+13 Line Intersects Track

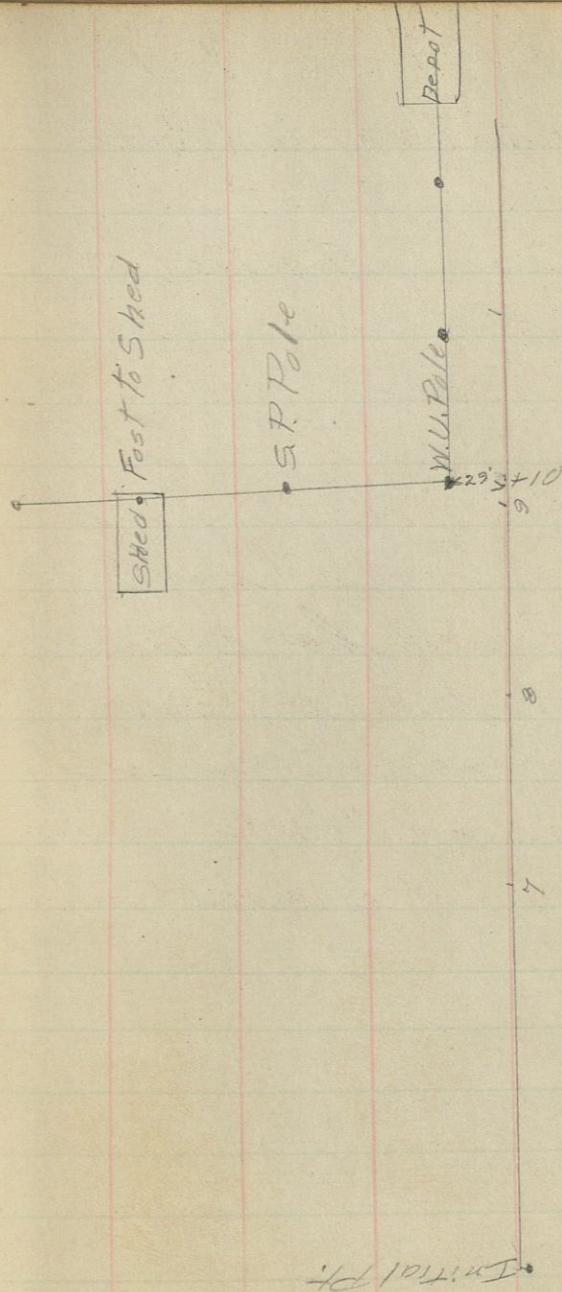
First S.P. Pole 27' high

Last S.P. Pole 21' high

Phone used for practically
nothing but Co. business.

The phone was put in by
Mr. Woods on Companies time

Material used is owned by
S. P. Co.



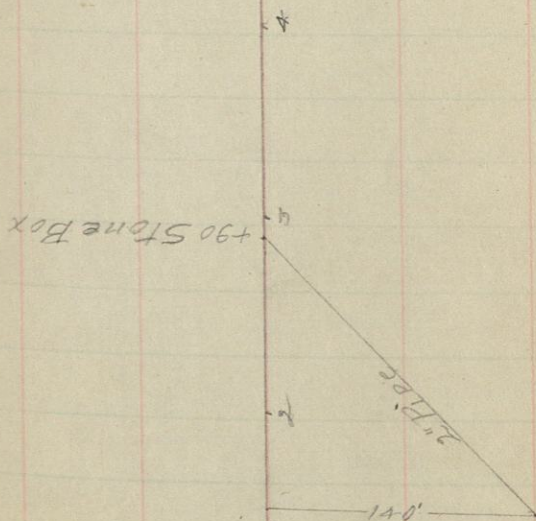
Spingle Springs 7/20/17

Mrs. Anna Zentgraf Pro. Pipe Line.

2532+902'x3' Stone Box 137A-Initial Pt.

2531+50 Spring Piped from. 140' Out R.

2532+90 Stone Box 137A. End of pipe



← Sacto.

Placerville 7/19/17

1st 4" Sewer Pipe Old Town Brille

25 3204+364

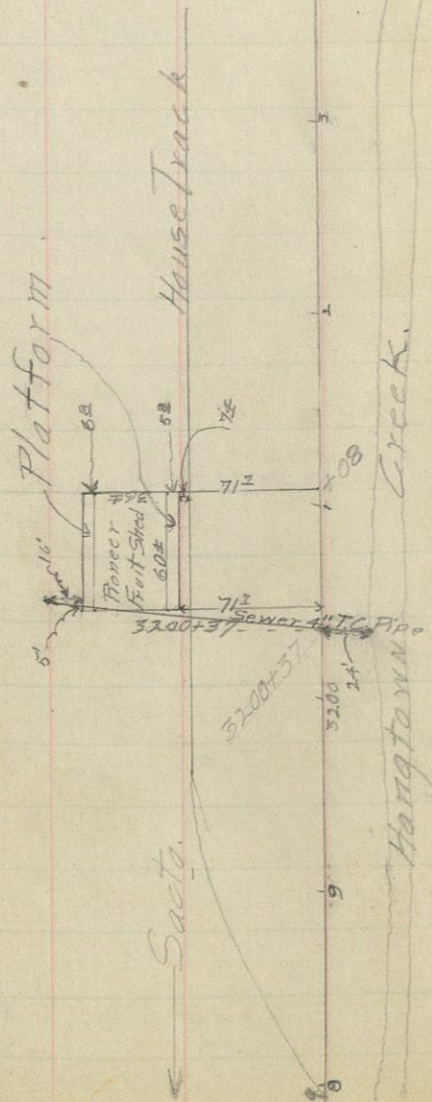
Initial Pt.

2nd 3200+37 Sewer Empties in Creek & 24' Out R.

25

This sewer was originally built by Mrs. Marks from her place (which stood where Pioneer Fruit Shed now stands) to Hang Creek. This was before the S.P. Co. had R.W. There.

In later years people in various parts of the town connected with this sewer.



Auburn 7/23/17
Nevada St

Sec. House Electric Light Crossing

702+95 E

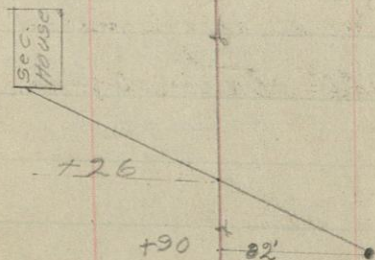
Initial Pt.

703+90 Pole

82' Out R.

704+26 Line crosses Main Track

Single cross arm on
pole. Wires suspended from
house with two small wires



← Sacto.

10

Roseville 8/1/17

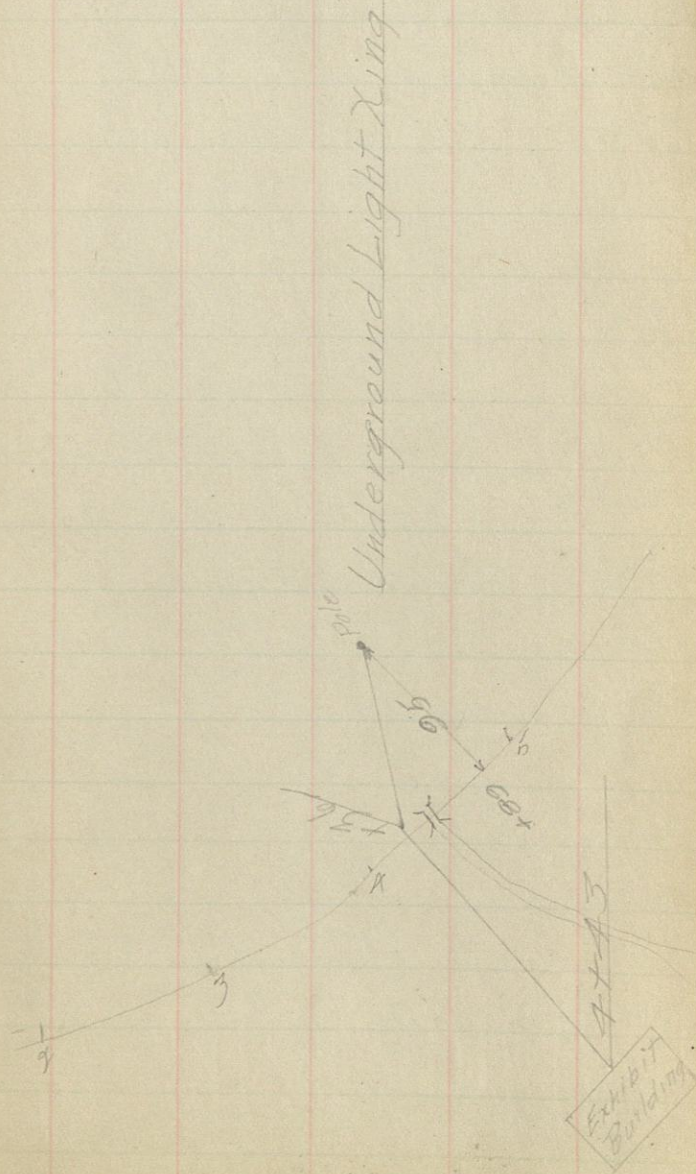
Board of Supr. Underground Light Xing

4+36 L in Pipeline 8' Out

4+43 Pipe Ends at Exhibit Building

4+79 Pole 95' Out L

21



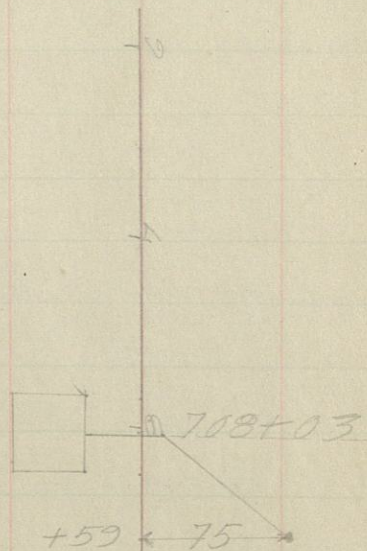
Hood 8/4/17

Underground Power + Light Xing
for Peters-Wheelers Seed Co.

708+03 Lin Pipeline 10' Out R.

708+59 Pole 75' Out R.

This Xing is a $1\frac{1}{2}$ " iron pipe
carrying three power
wires + one light wire.
The power wires carry
220 Volts + the light
wire carries 110 volts.
Pipe is 2' under ground



← in to Walnut Grove

Summit 8/9/17

Ground Leased by R.S. Wales

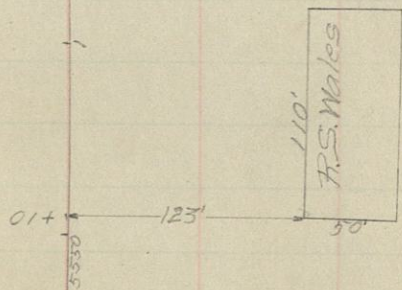
5551+204 H.B.

Initial Pt.

50+10 West Cor of Ground 123' Out

Mr. R.S. Wales engineer on
fire train at the Summit
wishes to lease the ground
around his cabins

These cabins were formerly
owned by J. Lord but have
been purchased by Mr. Wales

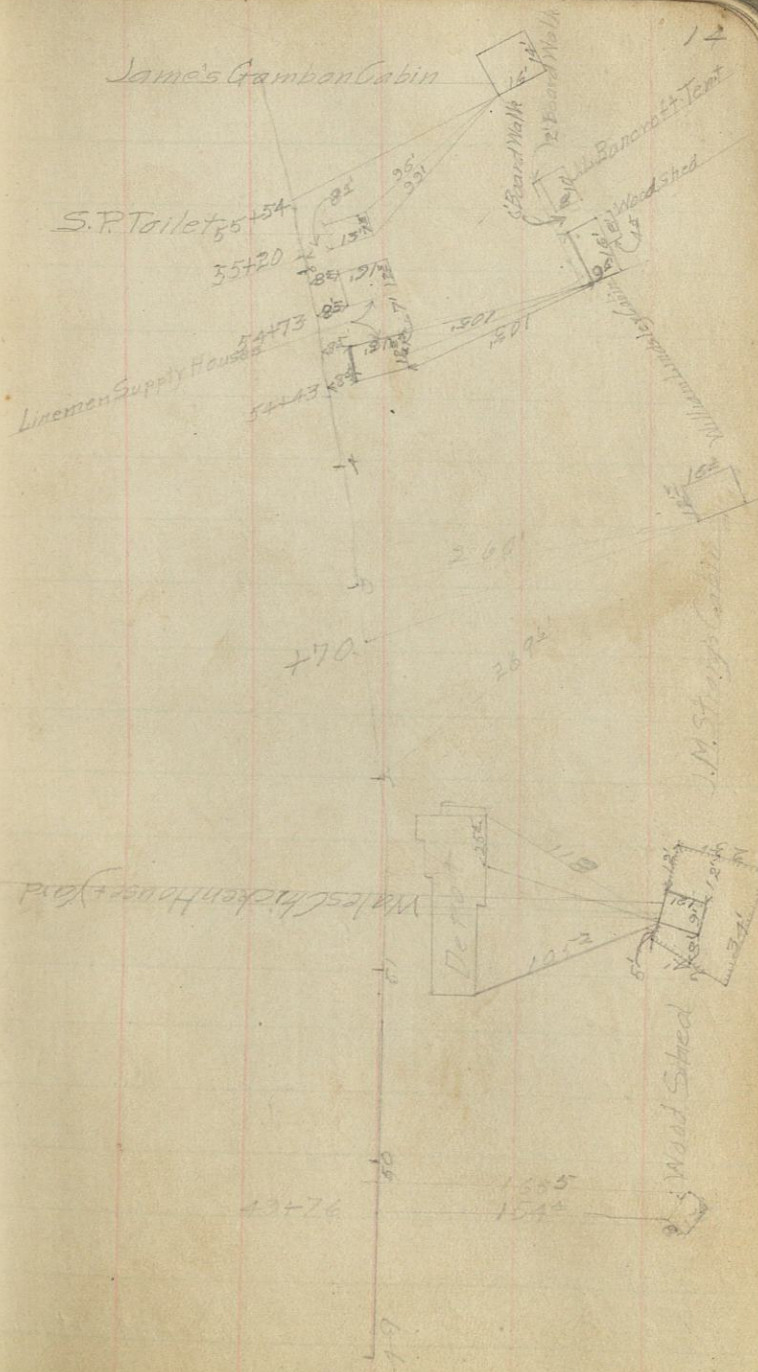


← 5550 to 5551

Summit Layout

Continued on Page 15

- 55+20 West Face of S.P. Toilet 8' Out
- 54+73 West Face of Linemen's Supply House 8' Out
- 54+43 West Face of " " House 8' Out
- 52+70 West Face of Strong's Cabin
- 52+44 West Cor of Strong's Cabin 160' Out
- 52+00 West Cor of J.M. Strong's Cabin 169' Out
- 49+76 West Face of Shed 15' Out
- 55514214 Initial Pt.



W. Rose Sacto. Cal.

Callan 8/23/17

15

P.G. + E. 5" Sheet Iron Drive Water Pico

149H42 Pipe 218' Out L

1506+08 " 260' "

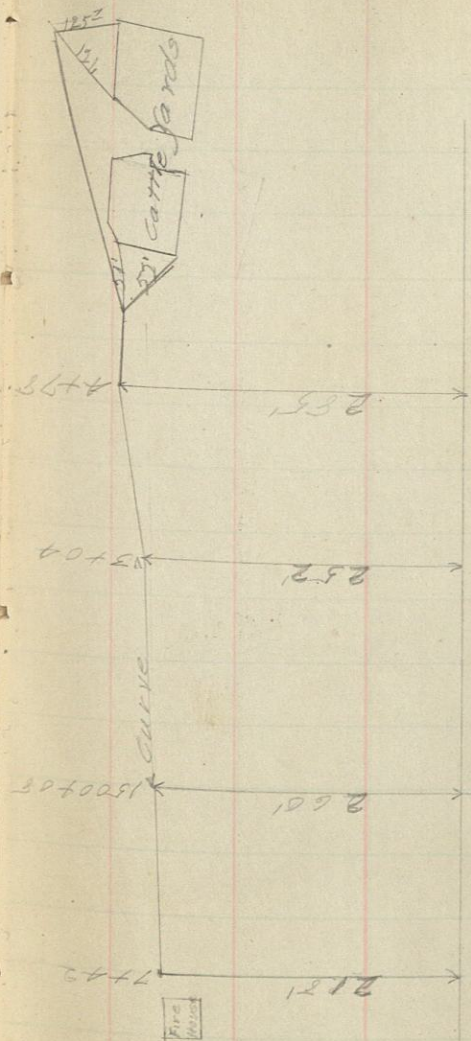
1503+04 " 252' "

1504+78 " 275' "

150435 " 273' "

149H57 Sp. S.W. Initial Pt.

5" Sheet Iron Drive Pipe



Freight Shed

← Sacto.

Placerville 8/27/17

The Drake Company Platform

3204+364

Initial Pt.

3205+30 West Face of Platform 73' Out L

Card

G.G. Fraser

L.A. Bailey

E.E. Drake

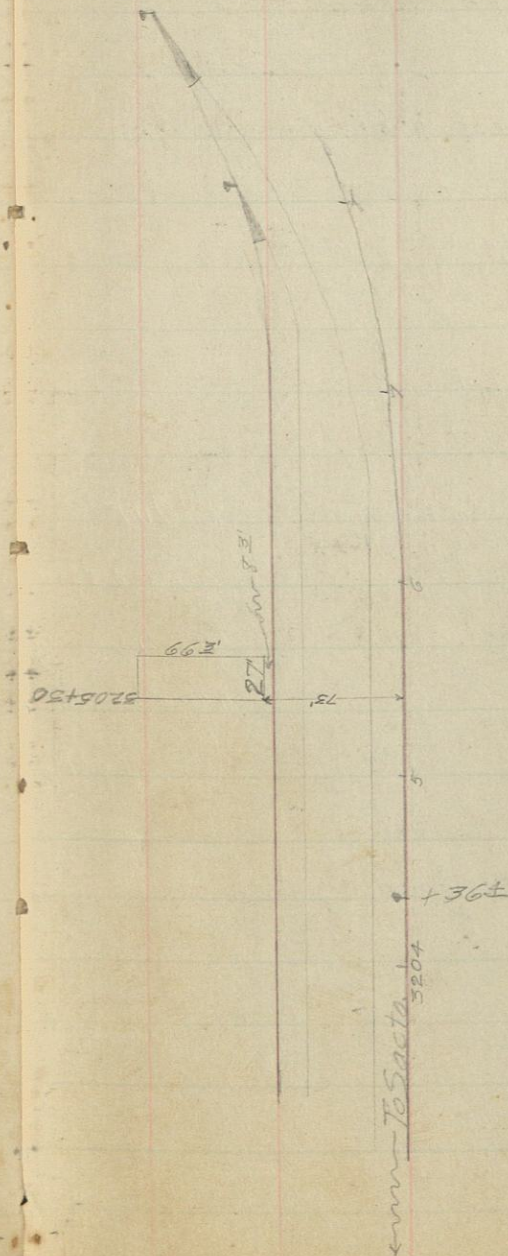
The Drake Company

Industrial and Mineral
Chemical Products

Kearny 2935

142 New Montgomery St.
San Francisco

Company is not incorporated



Reclamation District 1500 Ditch + Pumping Plant

0+00 West B.W. of 103 A Initial Pt

12+72 East B.W. of 455th Opening

12+75 East Side of ditch 43¹/₂' Out L

13+12 10' Ditch 34' Out L

15+00 18' Ditch 24' Out L

17+30 18' .. 21' .. L

20+00 8' .. 21' .. L

20+45 8' .. Leaves RW 25' Out

25+28 Ditch on outside of R.W. fence 23' Out

27+49 24' Galv Iron pipe 31' Out L

27+69 36' ..

27+69 East Face of Transformer Station

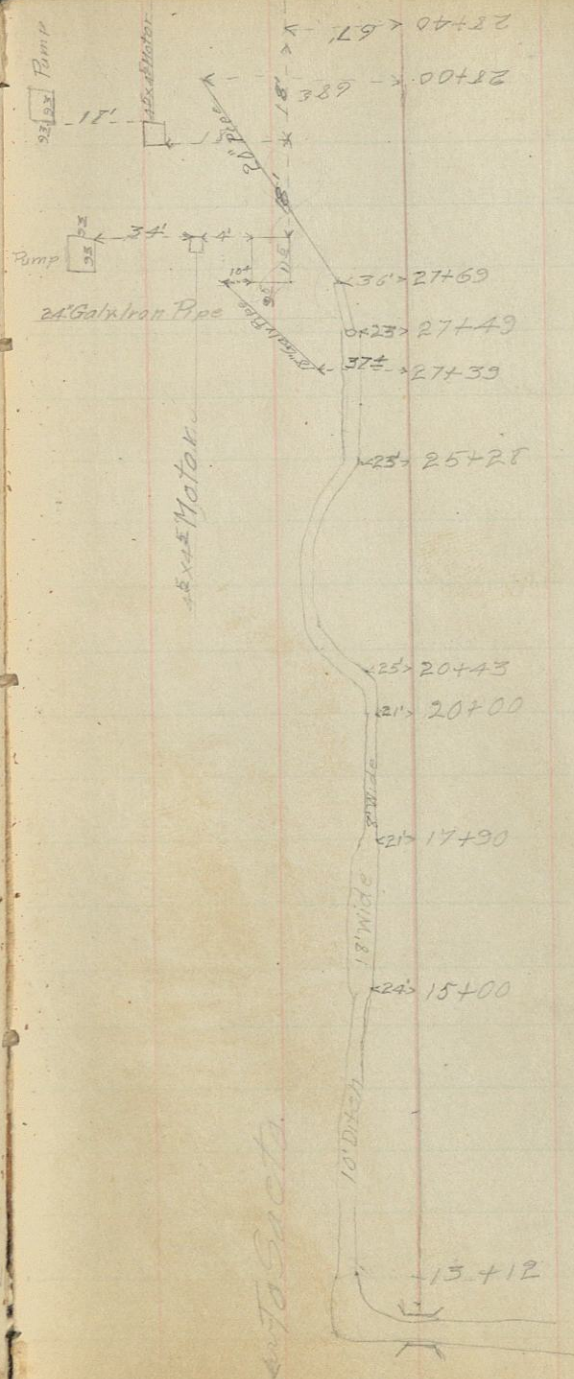
24' Sacked

42' Cobbled

Deed - M & M. A. Marcuse to N. Cal. Cal. Nov. 3, 1890. Addition

R/W outside 100' previously deeded, S'y from Sta

763+39¹/₂ to S line 34



Thomas O. Hardie et ux to
Kettie L. Fornie. This Indenture,
made this seventeenth day
of January in the year of
our Lord one thousand eight
hundred and ninety-eight
between Thomas O. Hardie
and Ada M. Hardie (his wife)
of the County of El Dorado,
State of California the
parties of the first part, and
Kettie L. Fornie (wife of Alexander
F. Fornie) of the same place
the party of the second part,
Witnesseth: That the said parties
of the first part, for and
in consideration of the
sum of Four hundred dollars
lawful money of the

21
Vol. 3 Hall
United States of America
to them in hand paid
by the said party of the
second part, the receipt
whereof is here by ack-
nowledged, do by these
presents grant, bargain, sell
convey and confirm unto
the said party of the
second part, and to
her heirs and assigns
forever, all that certain
lot, piece or parcel of land,
signature lying and being
in the City of Placerville
County of El Dorado, State
of California, and bounded
and particularly described
as follows, to wit:

That portion of Lot No 4 in Block No 19 as the same is marked, designated and numbered on the official map and in the field notes of the official survey of said City now on file and of record in the office of the County Recorder of said County) described as follows: To-wit: Commencing at the North West corner of said Lot 4 to the intersection of Union and Clay Streets thence running Easterly 75 feet to the North East corner of said Lot 4, thence Southerly along the line of Lots 3+4 Block 19, ninety

seven (97) feet, thence Westerly 84 feet to Clay Street and thence Northerly 91 feet to the place of beginning. Together with all and singular the tenements, hereditaments and appurtenances thereunto belonging or in any wise appertaining and the reversion and reversions, remainder and remainders, rents, issues and profits thereof.

To Have And To Hold, all and singular, the said premises, together with the appurtenances, unto the said party of the second part, and to her

kins and assigns forever,
 In Witness Whereof, the said
 parties of the first part have
 hereunto set their hands
 and seals, the day and
 year first above written.
 Thomas O. Hardie (Seal) Ada
 M. Hardie (Seal)

State of California County
 of El Dorado. On this
 Eighteenth day of January
 in the year A.D. one thousand
 eight hundred and ninety-
 eight, before me Fred Irwin
 a Notary Public in and for
 the County of El Dorado
 State of California, residing
 therein, duly commissioned
 and same personally

appeared Thomas O. Hardie
 and Ada M. Hardie (his wife)
 known to me to be the
 persons whose names are
 subscribed to the within
 instrument, and acknowledged
 that they executed the
 same.

In Witness Whereof, I have
 hereunto set my hand
 and affixed my official
 seal, at my office in the
 said County of El Dorado
 the day and year in
 this Certificate first above
 written. Fred Irwin Notary
 Public In and for said
 County of El Dorado State
 of California. Filed for

record at the request of
Mrs. A. Forni January 18th
1898 at 10³⁰ o'clock A.M.

Recorded January 22, 1898
at 10⁴⁵ o'clock A.M.

A. S. Bosquit County Recorder
El Dorado County.

By D. E. Pierce Deputy Recorder

Arbuckle 9/8/17

25

Flag Pole for D. Cramer

1466+789

Initial Pt.

1474+22 6" Iron Flag pole 175' Out L

Sidewalk

175'

1474+22

6" Iron Flag Pole

Station

Old wooden flag pole had
been standing for about
ten years. The City of Arbuckle
claim they had verbal
permission to erect pole on
our R. W.

Mr. D. Cramer is a permanent
citizen of Arbuckle where
he owns + operates a butcher
shop, he is also president
of the Chamber of Commerce
in said City

1466+789

unf. Sacto

3+675 = 0+00

Initial Pt.

1+45 S.P. Pole 31' Out R.

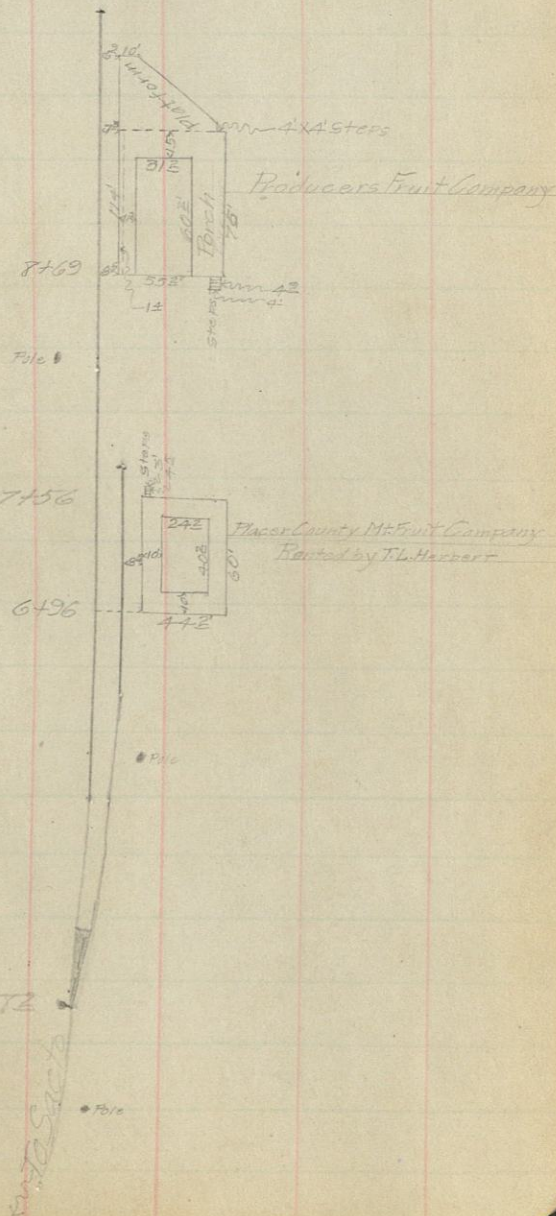
3+07 " " 225 " R

4+46 " " 1+5 " R.

6+25 " " 28' " R

6+96 West Face of Fruit House

8+32 S.P. Pole 22' Out L.



Folsom 9/14/17

Sewer line West of Depot

28+70.5

Initial Pt

22+48 8" T.C. Pipe 75' out R.

22+75 Manhole 48' .. R.

28+82 .. 33' .. R.

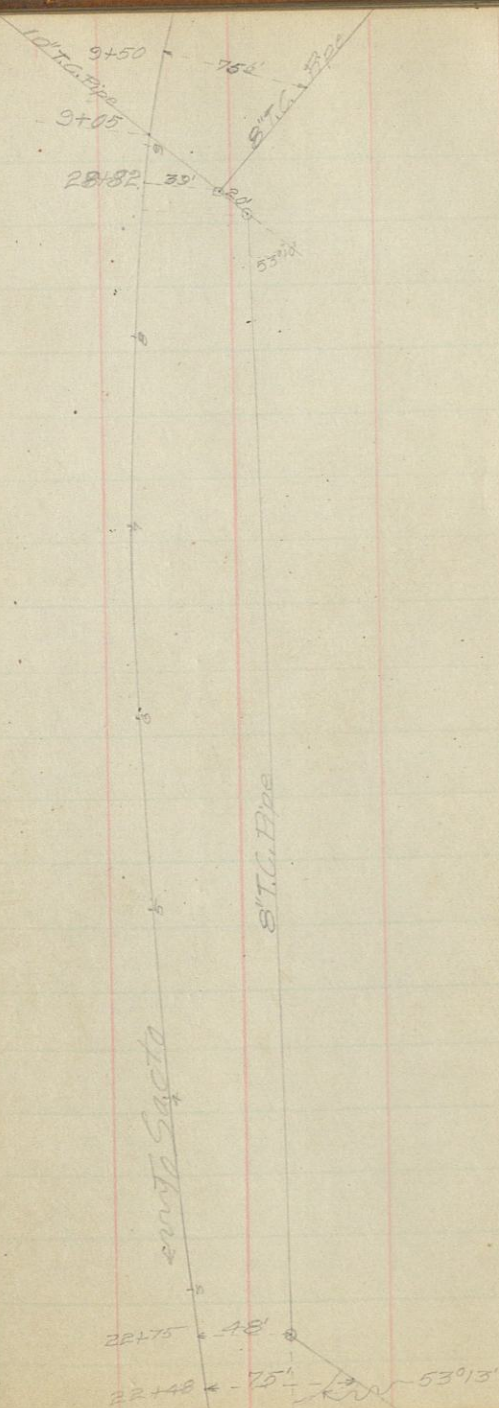
29+05 10" T.C. crosses under track

29+50 8" T.C. Pipe 75' out R.

Engineer said pipes under our tracks were layed in concrete. The job was supervised by our Section Foreman.

Spec for Sanitary Board of The Folsom Sanitary Dist.
J. Perazzo (Pres) Oscar Miller (Sec)
F. W. Staunton, J. Russe and J. P. Cox

27



Falsum 9/19/17

Sewer Pipe East of Depot.

43+80

Initial Pt.

42+00 Manhole 114' out L.

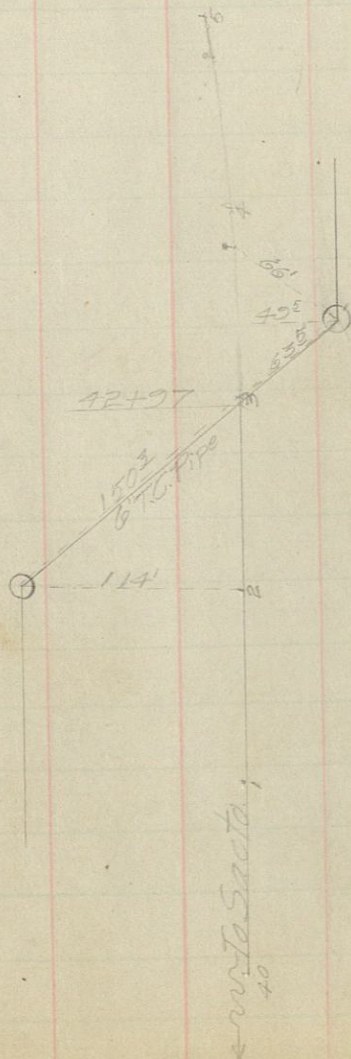
42+98 Sewer crosses track

43+00 Manhole 150[±]' out L.

43+00 " 63[±]' R.

43+80 " 66' R.

Engineer says this pipe is set
in eight or ten inches of concrete.



Paradise 9/21/17

8" Water X-ing for Paradise Irr. Dist.

644+86B

Initial R

647+54 Water pipe 50' out R

644+64

Crosses track

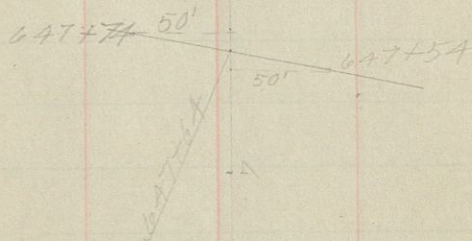
647+74

50' out L.

James Pearson (Pres) C.C. Bille (Secty)

Ivan F. Goodner Chief Eng.

29



untouched
644

Paradise 9/19/17

Platform for Paradise Fruit Growers Union

215+94² 12" V.G.T. Pipe 197 J. Initial P.H.

212+34 West Face of Platform 104' out

211+54 East 114' . .

In past years this platform
has been used by the people
of paradise for their social
gatherings such as dance
Fairs, etc. I also understand
that the Preacher held
services there at various
times.

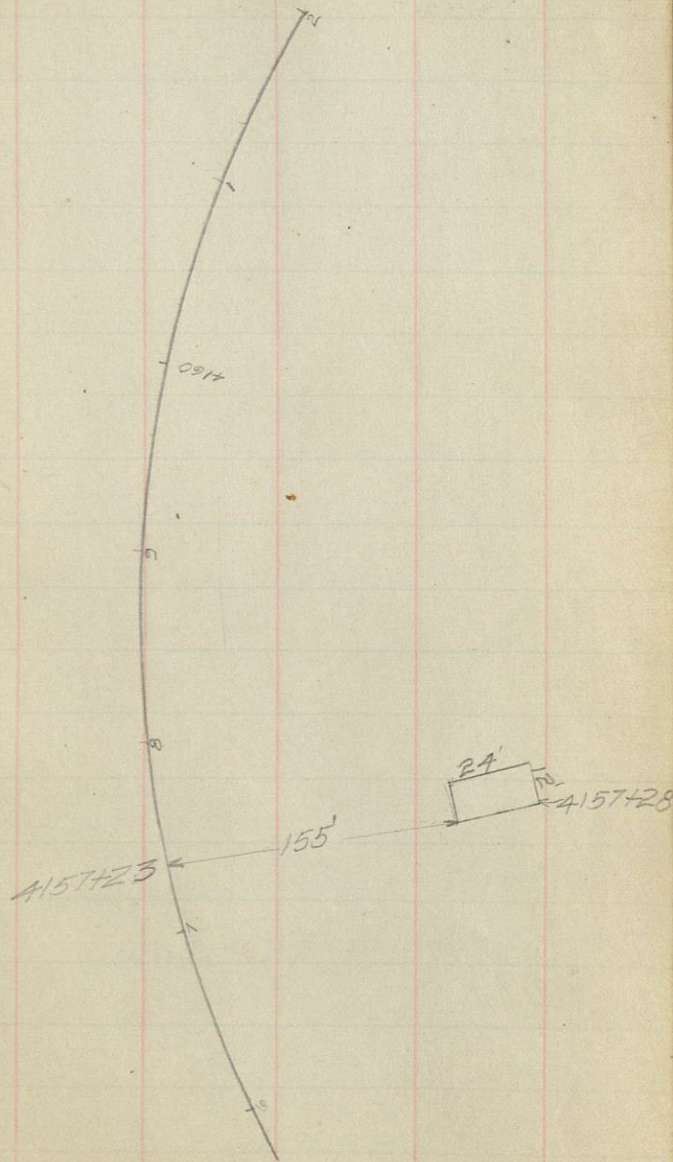
John N. Bille (Pres) J. T. Blackburn
(Vice Pres) R. Charlton (Sec) and
J. Person + D. L. Whisman Trustees
Branch of Calif. Fruit Exchange



Blue Canon

A.H. Loomis's Cabin

31

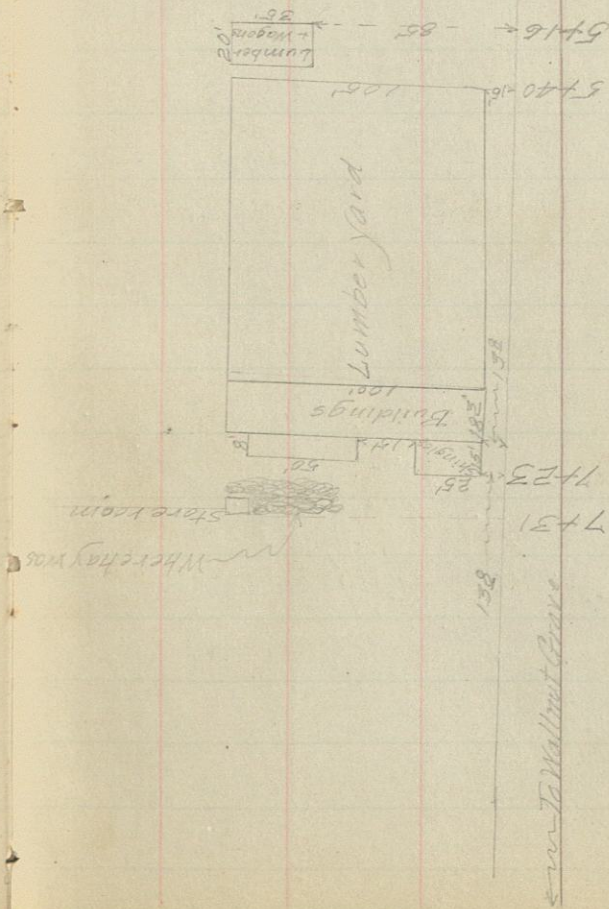


New Castle

Walnut Grove

33

- 5+08² = 0+00 Chained down house track
 5+16 East Face of Lumber + Wagons 85' out
 5+40 " " " Lumber yard 15'
 7+23 West Face of Shingles 132'
 7+31 " " " Shed + Hay



Putts Lake

Distance between pole 14 to 22 on B.T.L. line

2700'; Poles about 130' apart

Distance between poles 22 to 34 on B.T.L. line

1260'; Poles about 115' apart

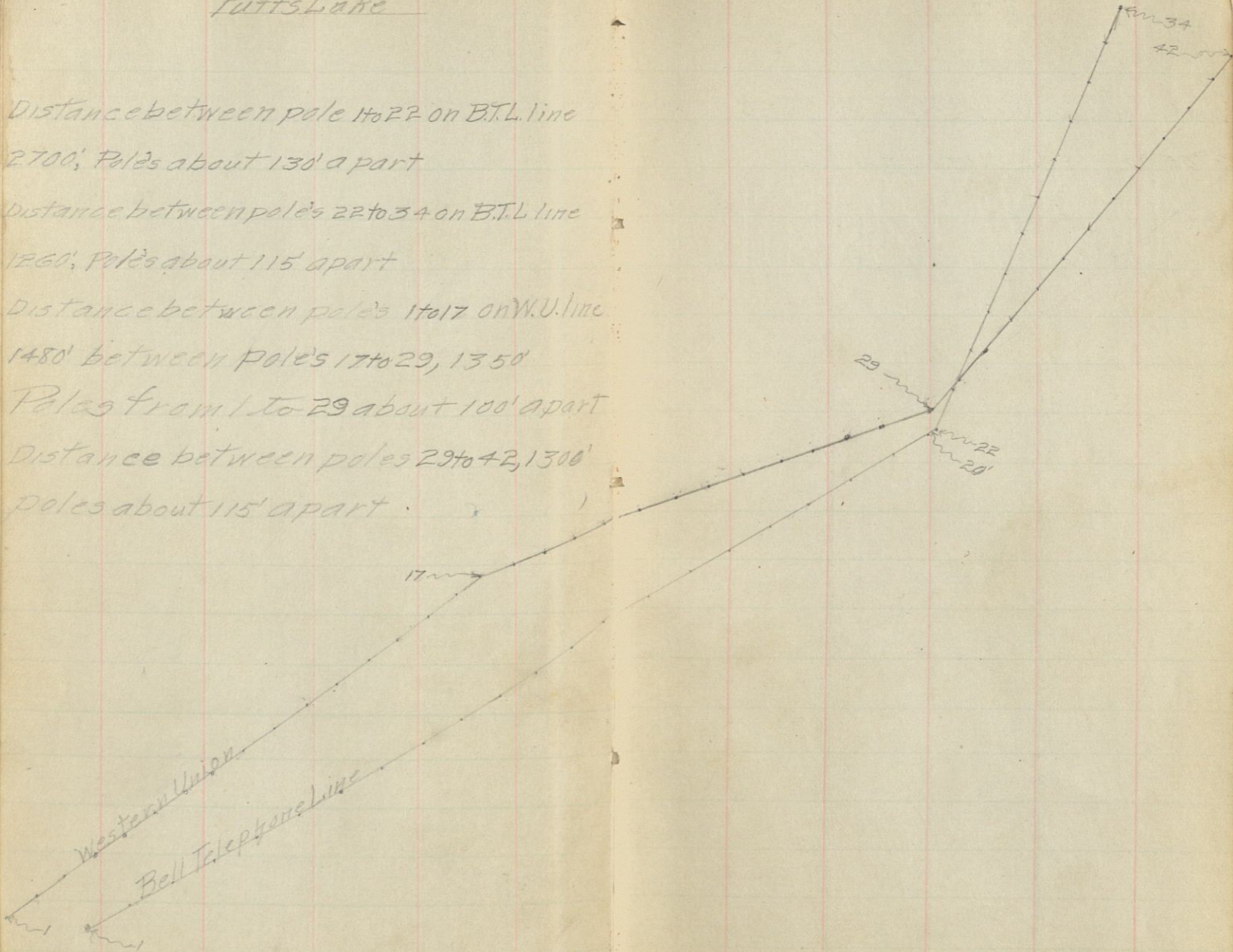
Distance between poles 14 to 17 on W.U. line

1480' between Poles 17 to 29, 1350'

Poles from 1 to 29 about 100' apart

Distance between poles 29 to 42, 1300'

poles about 115' apart.



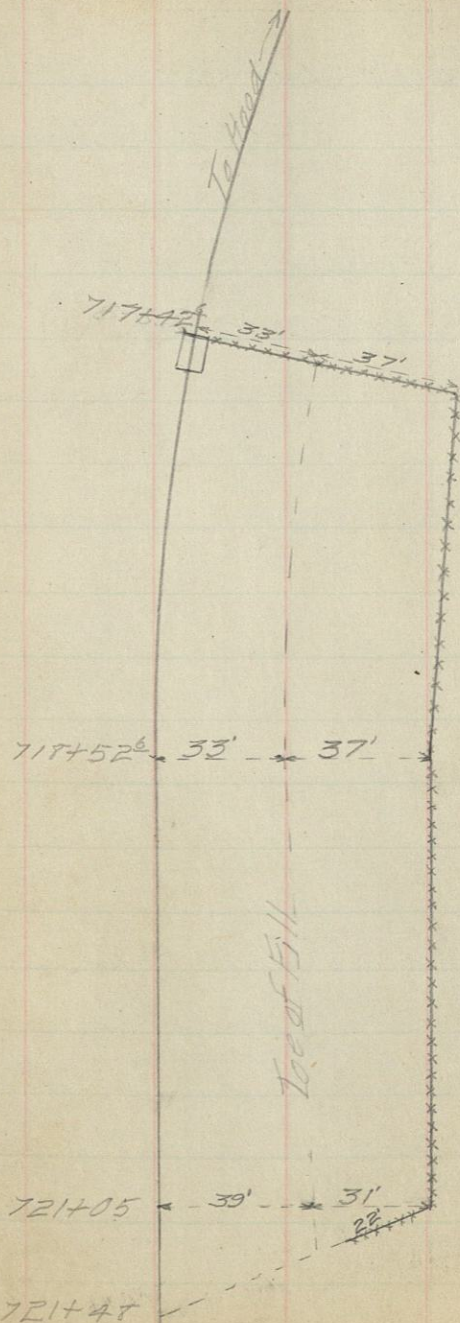
Hood

W.R. Noble Land Lease

717+57⁺ Center of C.G. 104 B.B. Initial Pt.

717+42⁶ West B.W. of C.G. + Fence 70' out

721+05



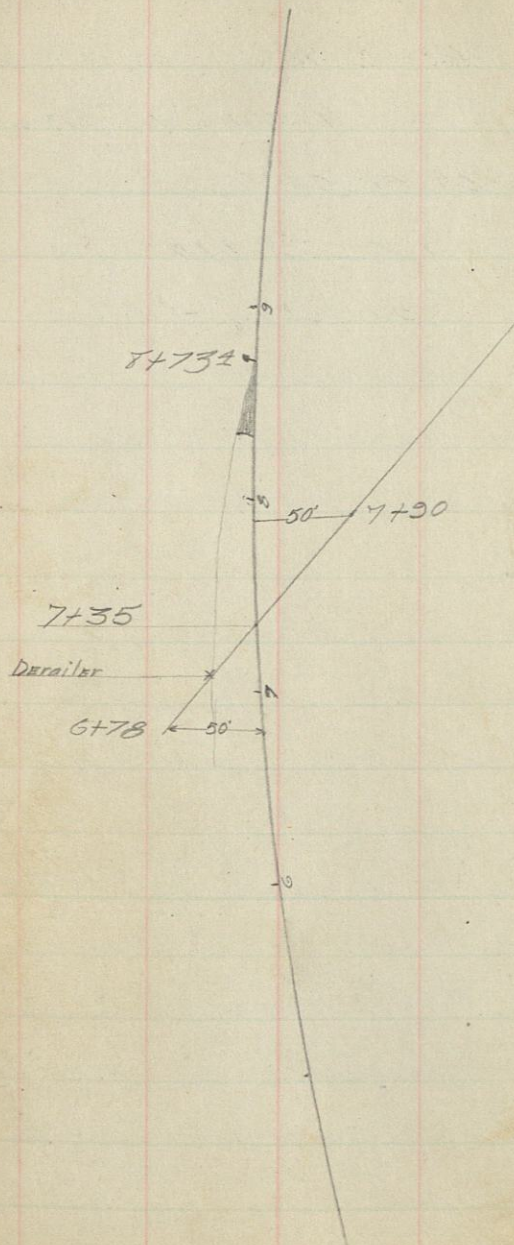
8" Wood pipe Water X-ing for Paradise Irr. Dist

7+87.73 Pt of S.W. Initial Pt.

7+79.0 Ditch 50' out Right

7+73.5 .. Crosses track

6+78 .. 50' out Left



Roseville 10/19/17

37

The Warehouse at Roseville
formerly owned by Sawtell
& Herring is now owned
by C. Sawtell & M. B. Johnson

Mr. Johnson uses the
entire warehouse paying
Mr. Sawtell rent for his
share of said warehouse

For the ^{past} six weeks the
warehouse has been
rented by the Pioneer
Fruit Co. at the rate of
\$25 per month. However
the Pioneer Fruit Co.
say they will be
out of the warehouse
by the sixth of
November.

Oswold

Scales for P.J. Changaris

P.G. & E. Guy Wire on S.P. R.W.

Initial P.G. 96C. - 383+46

← To Sacto.

Highway

• Entrance

• P.G. & E. Pole Line

• Guy Wire

379+53 Kil

43

43

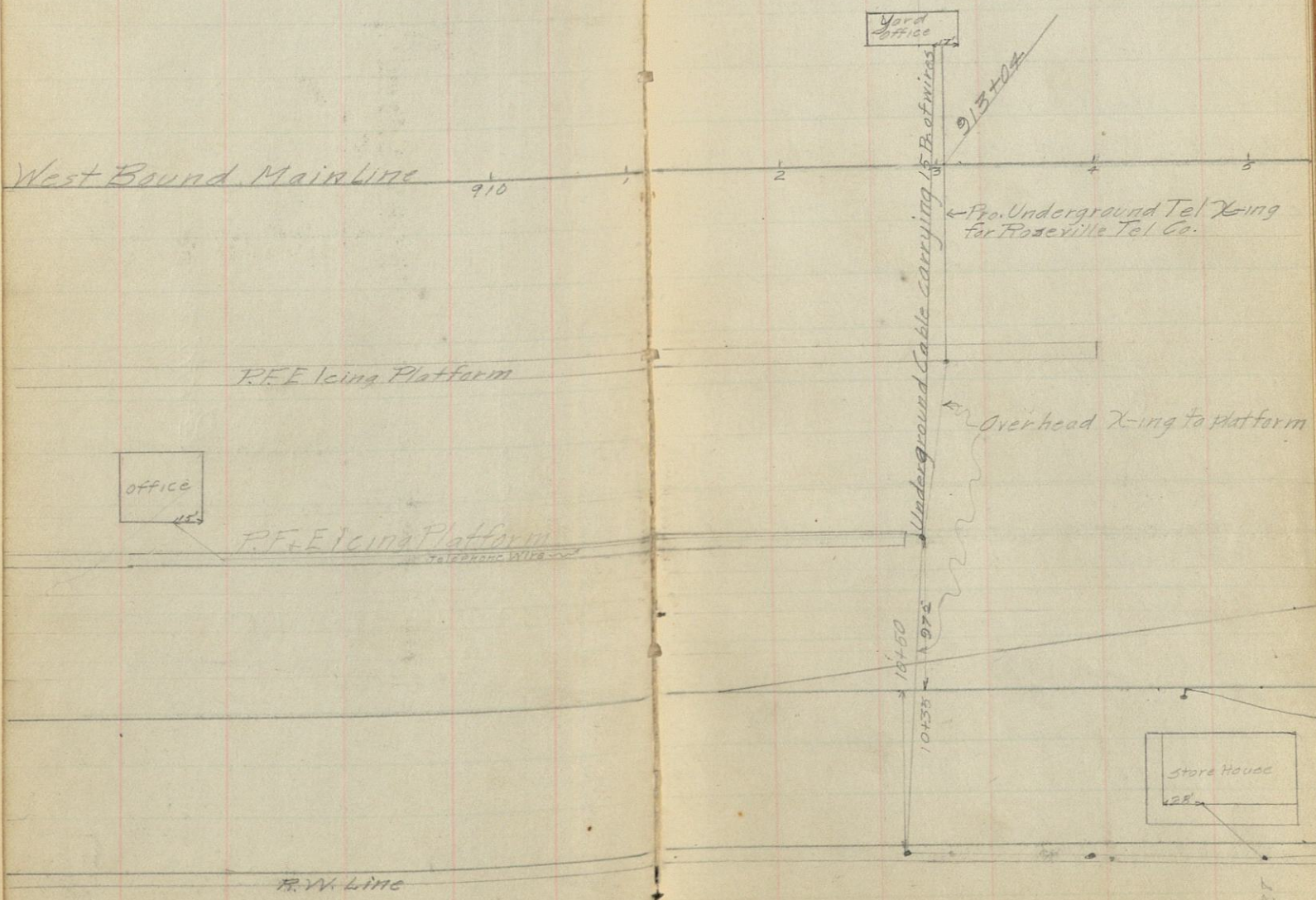
Road X-117

C.G. 96B

Bol. Dec 4 96C. - Eng Sta 383+46

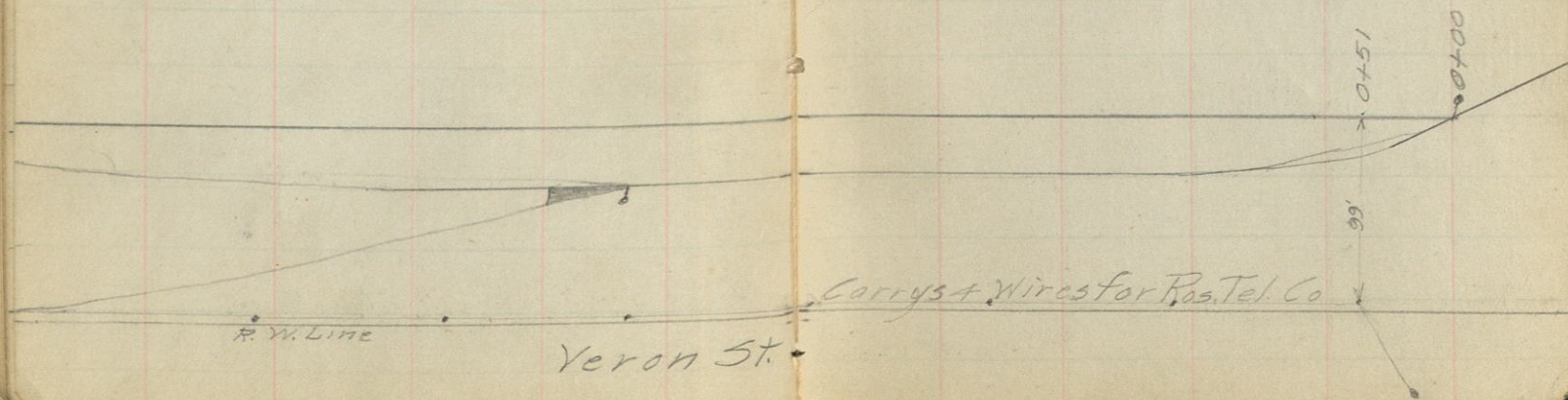
PERKINS

Roseville Telephone Co's Proposed Underground X-ing



The Roseville Telephone Co. have been using two pair of wires which run through the Underground Cable, one pair of wires connect four of our phones for which we have paid nothing for the past four years, the other pair connect

the P.F.E. phone that is in our yard office. Mr. E. L. King is charging them 65¢ per month for this pair of wires



Platform 14' high

P.F.E. Platforms

Old Icing Platform

South Wall of Preserving Shed

Scale 2" = 100'

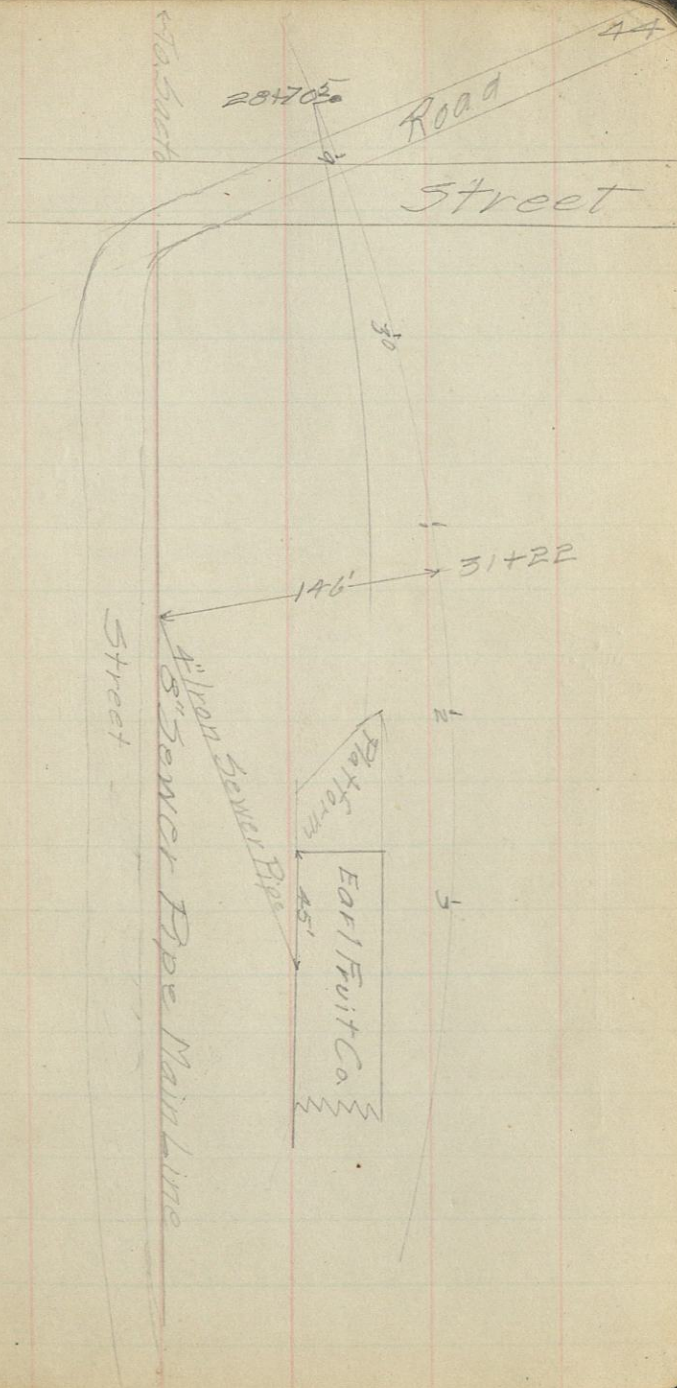


Folsom 11/1/17

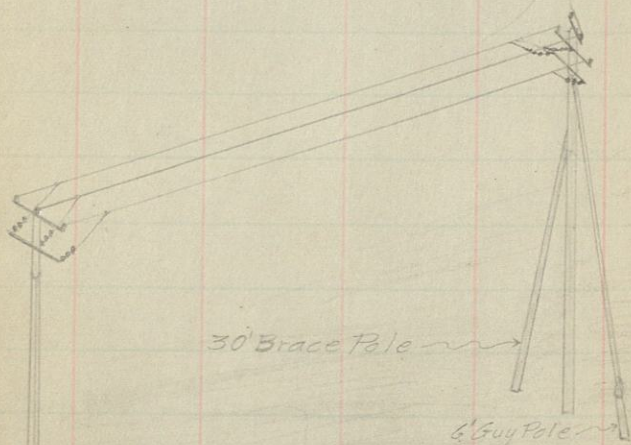
4" Sewer line for Earl Fruit Co.

28+70.5

Initial Pt.



Tekama



Guy wire + same on opposite side of Pole

Guy Wire 12' 12' 12' Guy Wire

R. W. Fence

1625+98
+90
+82

12'
52'
62'

Pole 30' long used as brace
Power pole 50' high
6' Guy Pole

52' 1527+90

Tekama

R. W. Fence

Overhead Tower X-ing for
Northern Calif. Power Co.

Willows

330043 East E.W. of 148-A Initial Pt.

330048⁺ Cen. Pt + C.G 148-B-

330144 Cen Road X-ing

330147¹² Cen Pt + C.G 148-C

333343¹² Cen. 24" Con. Pipe 148-D-

334649⁺ Cen 18" Wood Box

S.P. Co. to W.W. Borman

33 N.E. Quarter of Sec. 35

33 Beginning at a point in N.E. Quarter

33 of Sec 35 Bearing South

33 $81^{\circ} 03' \frac{1}{2} E$ a distance of

33 $518 \frac{1}{2}'$ from N.E. Cor. of N.E.

33 Quarter thence South a distance of $221 \frac{1}{2}'$ To Intersect

with North boundary of County road thence N.E.

along North boundary of road $519 \frac{1}{2}'$ more or less thence

ce North $89^{\circ} 53' W$ a distance $456 \frac{1}{2}'$ to the point of beginning

20 of Oct 1914

Deed Book 145 Page 355

Woodland

596+01 West B.W. of 86-H Initial Pt.

587+88^E Cen. of Pk. C.G. 86-G.

82+00 Cen. of Pro. Road X-ing

72+30³ Cen. of Pk. C.G. 86-F.

Val

Richfield

Highway

5075700

curved Davis

Mail Crane

5078+05*10'

Sta. Box Car

542

5077+39

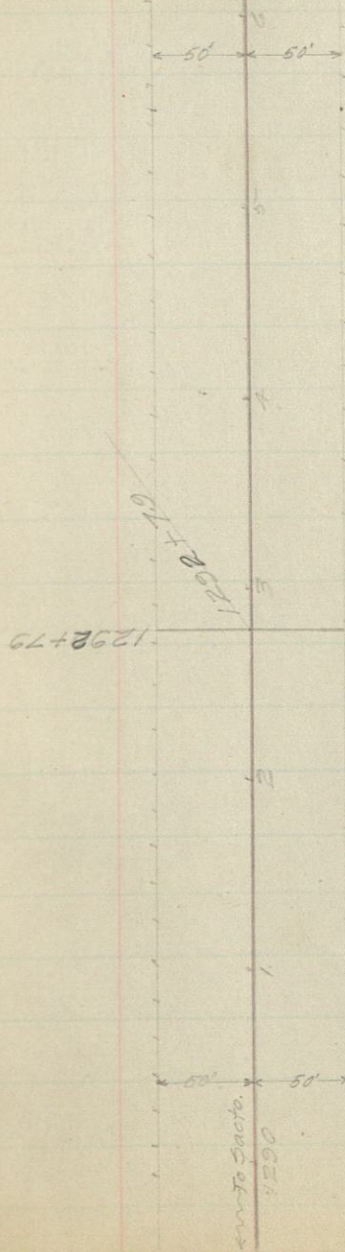
Road

Unload Cars here no platform.

West of Ensign

Yak.

W. Mayo Newhall (Pres)
Leon Bloss (Secy)



4.57. Water X-ing for

The Board of Trustees of The Leland Stanford Jr University

608 Insurance Exchange Bldg.

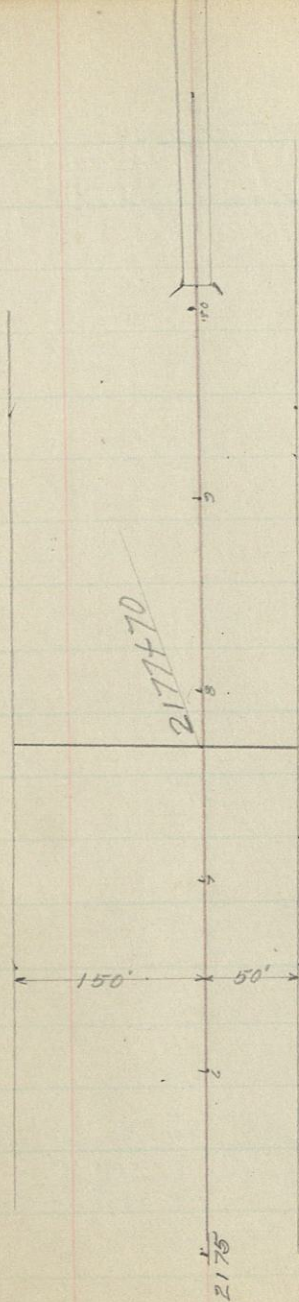
Vanderlynn Stow

Treasurer & Business Manager

San Francisco

California

West of Marysville
 2180+12² West B.W. of 139G Initial Pt.



Underground Tel. Ring for
 Yuba Consolidated Gold Fields
 (Incorporated)

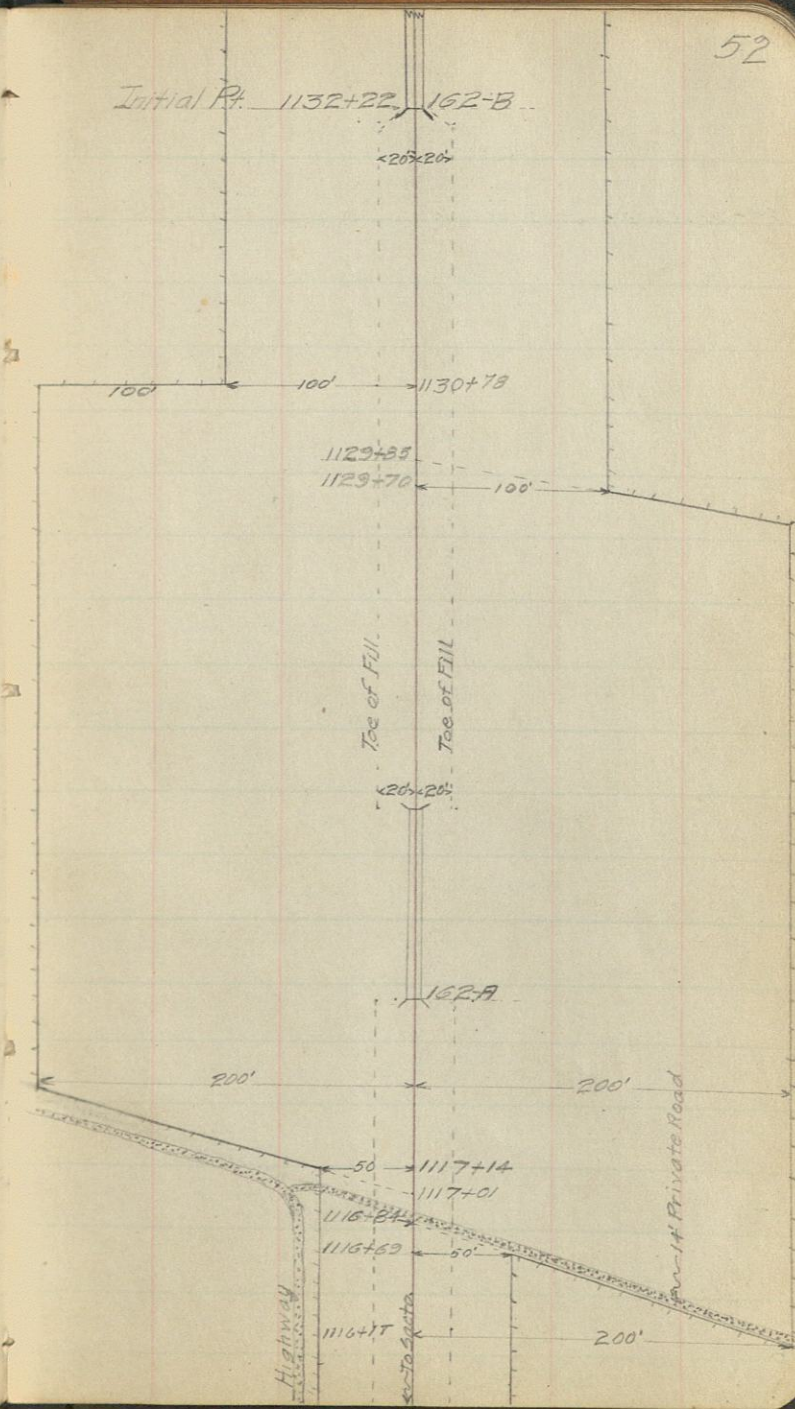
M.L. Summers (Supt.)
 Hammenton, Calif.

Val-
Hargrave

Biggs

Proposed Land Lease for J. P. Chesley

52



Roseville

Inst at To Amiz. Vert. L Wire Inter

965+50 H A

Bright 0°00'

C 140°25' 532'

A C. H.

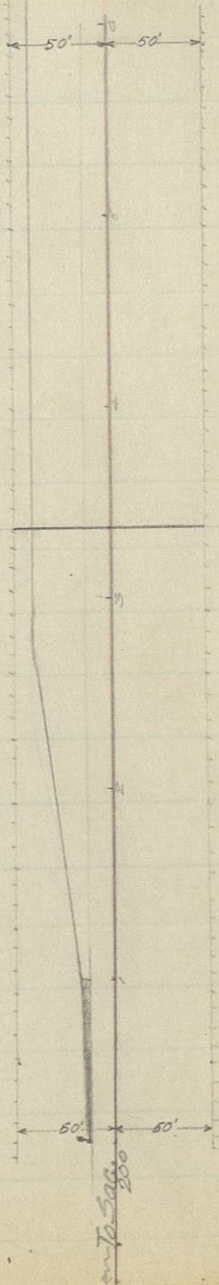
Shot	1	150°22'	200'	S.E. Cor. Paint Shop
	2	153°32'	195'	N.E.
	3	157°35'	177'	S.E. Chicken Yard
	4	165°00'	181'	N.E.
	5	162°08'	137'	Hyd.
	6	160°05'	198'	Angle Bar.
	7	171°03'	207'	S.E. Cor House
	8	177°04'	207'	N.E.
	9	235°42'	96'	Iron Peg
	10	324°45'	157'	
	11	329°40'	127'	Angle Bar Sec Cor

[To get Horizontal Distance] multiply the cosine of the verticle angle by the inclined distance and multiply the amount obtained by the cosine again.

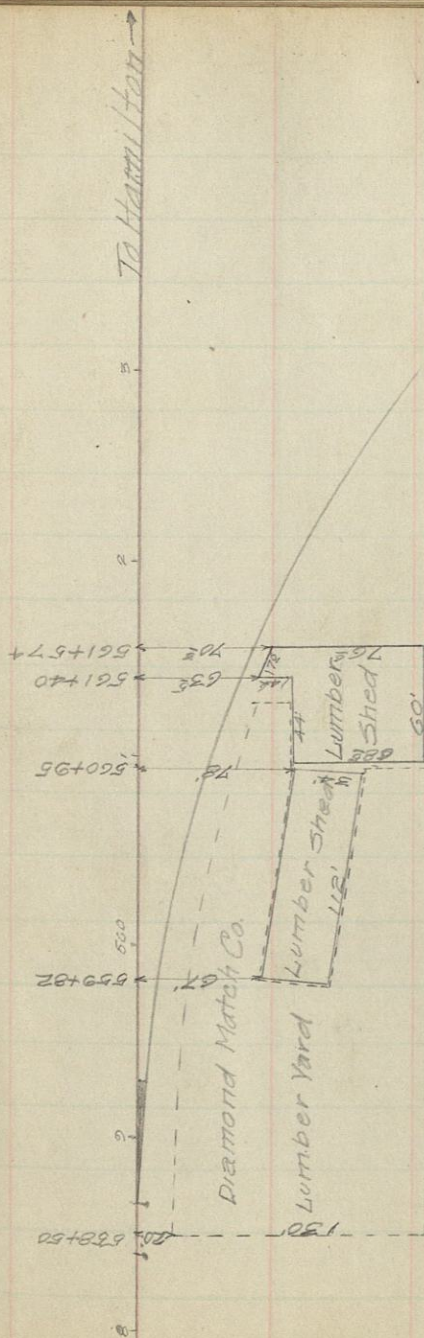
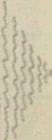
C.F. Rednall Marysville Calif. Phone #124

Berg

Under grade Tel. Xing for
C.F. Rednall



Hamilton



Hamilton

Oil Tank

300' Iron Pipe

Feed Tanks

Valve Boxes 2' x 2'

Hamilton Little King Trach

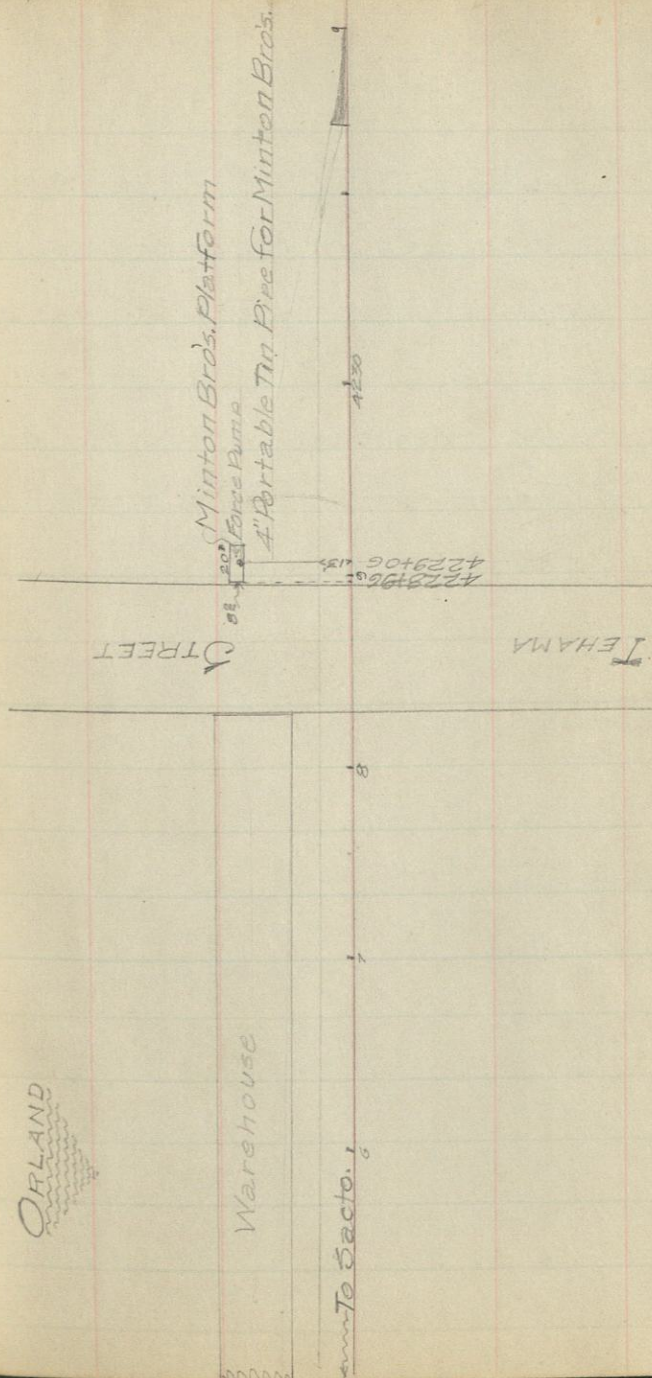
Trestle

4" Iron top pipes extend up through trestle to top of rail. A hose with union joint is used to transfer oil from car to these pipes

Oil runs to feed tanks by gravity and is pumped from there to storage tank

Sacto. Valley Sugar Co.

When unloading oil Minton Bros. have the car spotted on our track opposite their Platform, then oil is transferred from the car (to two underground tanks lying under Platform) by means of a 4" tin Pipe and funnel. It takes about three hours to unload one car and there is a great deal of leakage

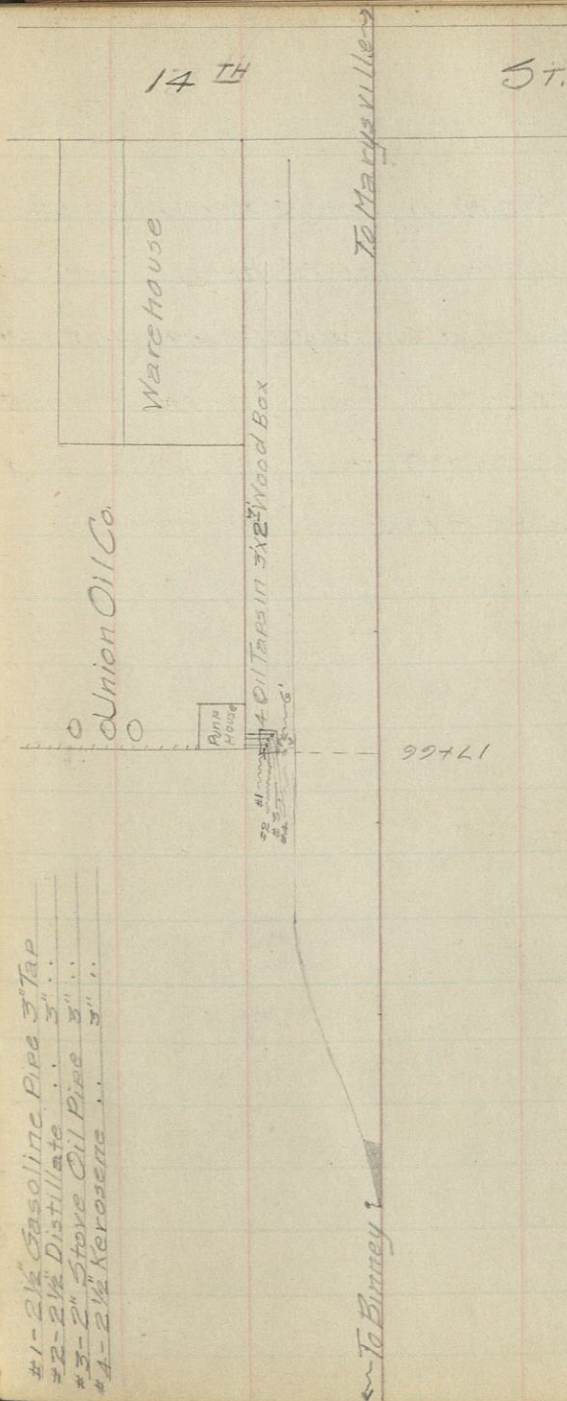


When unloading oil, hose with union joints are used to connect cars to spouts. Centrifugal Pumps propelled by electricity and located in pumphouse are then started and oil is Trans. from Cars to tanks
Not on our R. W.

Marysville

J. H. Thomas [Special Agent]

#1-2 1/2" Gasoline Pipe 3" Tap
#2-2 1/2" Distillate " 3" "
#3-2" Stove Oil Pipe 3" "
#4-2 1/2" kerosene " 3" "

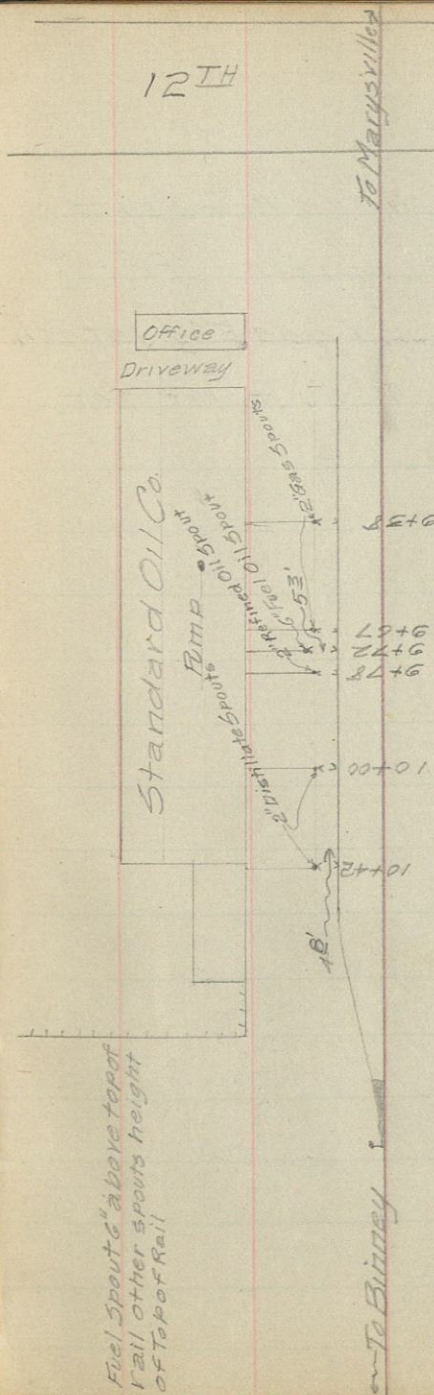


Cars are connected to spouts
by a hose with Union Joints. Force
Pump propelled by a gas Eng. is then
started and oil Trans. from cars
to storage tanks.

Not on our R.W.

MARYSVILLE

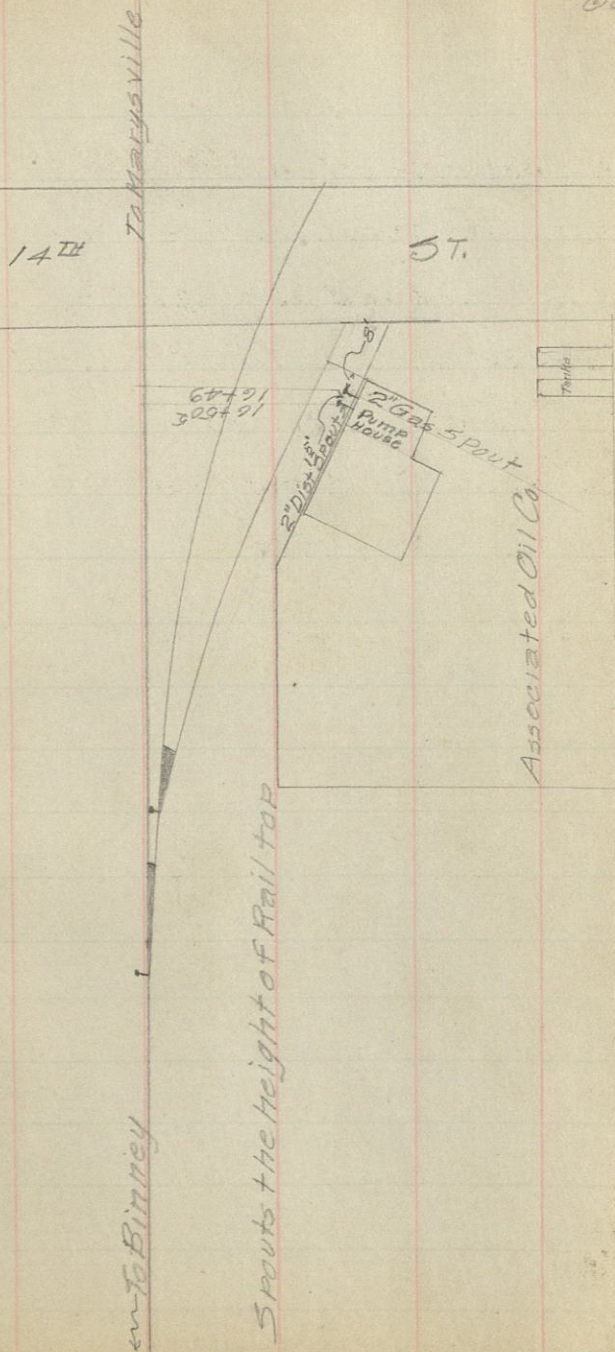
J. R. Shaffer (Special Agent.)



Cars are connected to spouts by a
 hose with union joints. A force
 pump propelled by a gas Eng. is then
 started and oil is transferred
 from cars to storage tanks
 Associated Oil Co's present location
 is all on S.R. Property

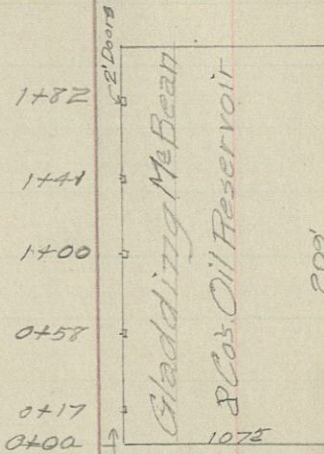
Marysville

T.L. Franklin (Special Agent)



Lincoln

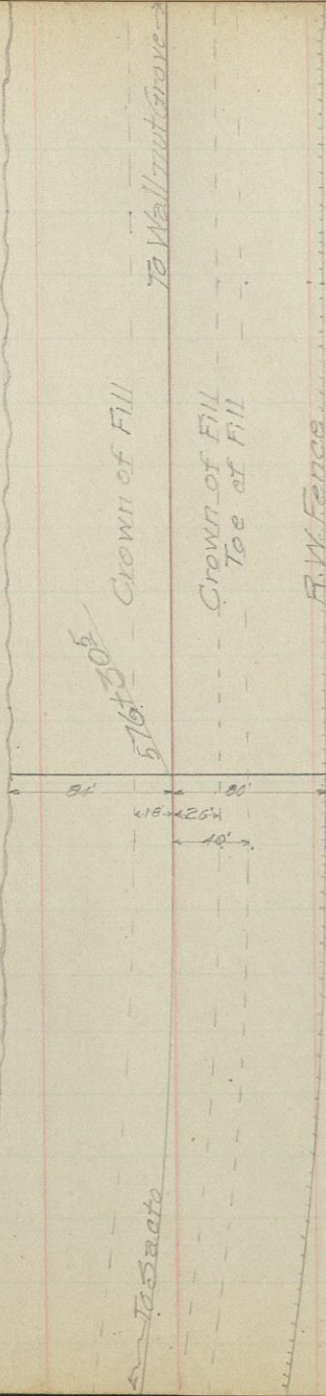
into Lincoln McBean tract



West of Free Port

198

Slough

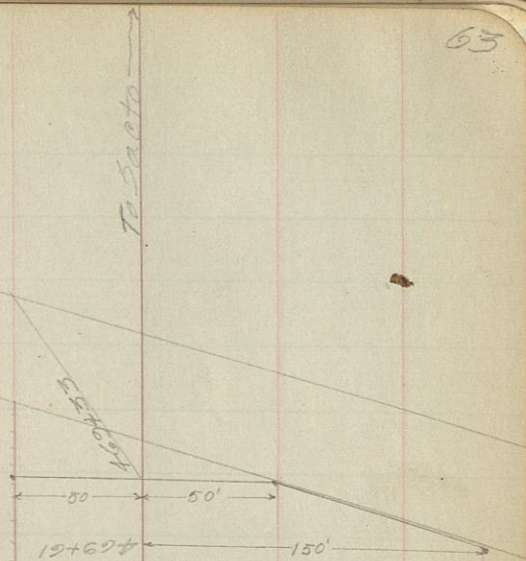


14" Cast Iron Water Pipe X-ing for
Charles. Sabrelier

Sunset

to Red Bluff

Overhead Tel. X-ing for
C. N. Sumner



County

Road.

Crichton's
Warehouse

Ware Ho.

27+50+15m

Sesma

Telephone Xing for
Sacto Valley Tel. Co.

Geo Mahood (Manager)
Red Bluff, Calif.

New Castle

Appendix

4" Iron Water Pipe

Tambor

64

492+03

792+25

$\frac{1}{2} \cdot 22' \cdot 45'$

later

later

later

Platform

1-6-1

1-6-1

7.2' 4722.85

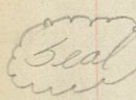
This Indenture made the
18th day of Nov. 1886 between
the C.P.R. Co. party of the
first part and Charles
Crocker of the City County
+ State of New York.

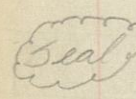
Witnesseth: That the party
of the first part in con-
sideration of the sum
of One dollar to it paid
by the party of the second
part doth grant bargain
sell convey and confirm
unto the party of the
second part all of that
real property situated
lying and being in
the County of Sutter
and State of Calif.

65
and described as follows
commencing at a point
opposite Eng. Stake at
Station 565+84^E on the
line of the Oregon Div.
of the C.P.R. Railroad
said point being distance
175[±] feet at Rt. angles
from the center line there
of and 33 feet at Rt. angles
South of ^{the} North line of
Sec. 5. in Township 16 North
of Range 3 East, Mount
Di. also Base and Meridian
U.S. Survey running thence
East parallel with the
Township line and 33 Ft.
distance therefrom 119[±] Ft.
thence southerly parallel

with said Railroad and
distance 290² feet at Right
angles from the Center
line there of 965² feet.
thence West 119² feet thence
Northerly parallel with
said Railroad and dist-
ance 175² feet from the
center line there of 965²
feet to the place of beginning
Containing 255 Acres of land
more or less In Witness
Whereof the said corpor-
ation party of the first
part hath by an order
of its Board of Directors
caused these presents to be
signed by its Pres. and
Sec. and its Corporate

Seal to be here unto
affixed as the act and
dud of said Corporation
the day and year first
above written

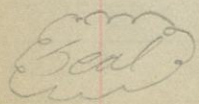
 Leland Stanford
Pres. of the C.P.R.R. Co.

 E.W. Miller Jr.
Secy of the C.P.R.R. Co.
State of Calif.

City and County of San Francisco

On this 26th day
in the year 1886 before
me E.B. Ryan a Notary
Public in and for
the said City and
County of San Francisco
duly commissioned and
qualified

personally appeared
Leland Stanford known
to me to be the Pres. and
E. W. Miller Jr. known to
me to be the Sec. of the
corporation that executed
the within instrument
and acknowledged to
me that such Corporat-
ion executed the same
It Witness Whereof I
have here unto set my
hand and affixed my
official seal the day
and year in this
Certificate first above
written



E. B. Ryan
Notary Public.

In and for the City
and County of San Fran-
cisco State of Calif.

Filed and Recorded at
the request of Wells Fargo
& Co. January 8th AD. 1887 at
10 minutes past 2 o'clock
P.M. in Book 5 of Deeds page
189 Records of Sutter Co.

A. W. Wewitt Co. Recorder

by W. E. Tucker Deputy Co. Recorder

Address

J. M. Strong Roseville, Cal. Brakeman
on Fire Train at Summit.

William Lindsleys Cabin Roseville Occupied by

J. L. Bonaroff Conductor on Fire Train at
Summit

James Gammon, Donner, Cal., Night Turntable man
built Cabin out of S. P. material 7/1/17.

Raymond Robinson Roseville Cal. Vacated
now but intends to rent

R. B. Lee shed night watchman

W. H. Lutz Carpenter

T. Newton Engineer on work train Donner Cal.

W. Roses Cabin Sacto. Occupied by A. Hartwell

J. Davis Roseville Cal. occupied by T. E. O'Connor
Donner brakeman on Work train

H. G. Lutz Donner Cal. Engin night watchman
Cabin built out of S. P. Material

N. Paved. Stop Water, Loomis

J. G. Haases Cabin Donner Cal. Occupied by

J. A. Black Conductor on Lumber train.

C. W. Piley, Donner Cal. Work train Brakeman

Geo. Woldrich Cal. Fruit Building 3rd Floor
Phone 11.1500

Reclamation District 1500

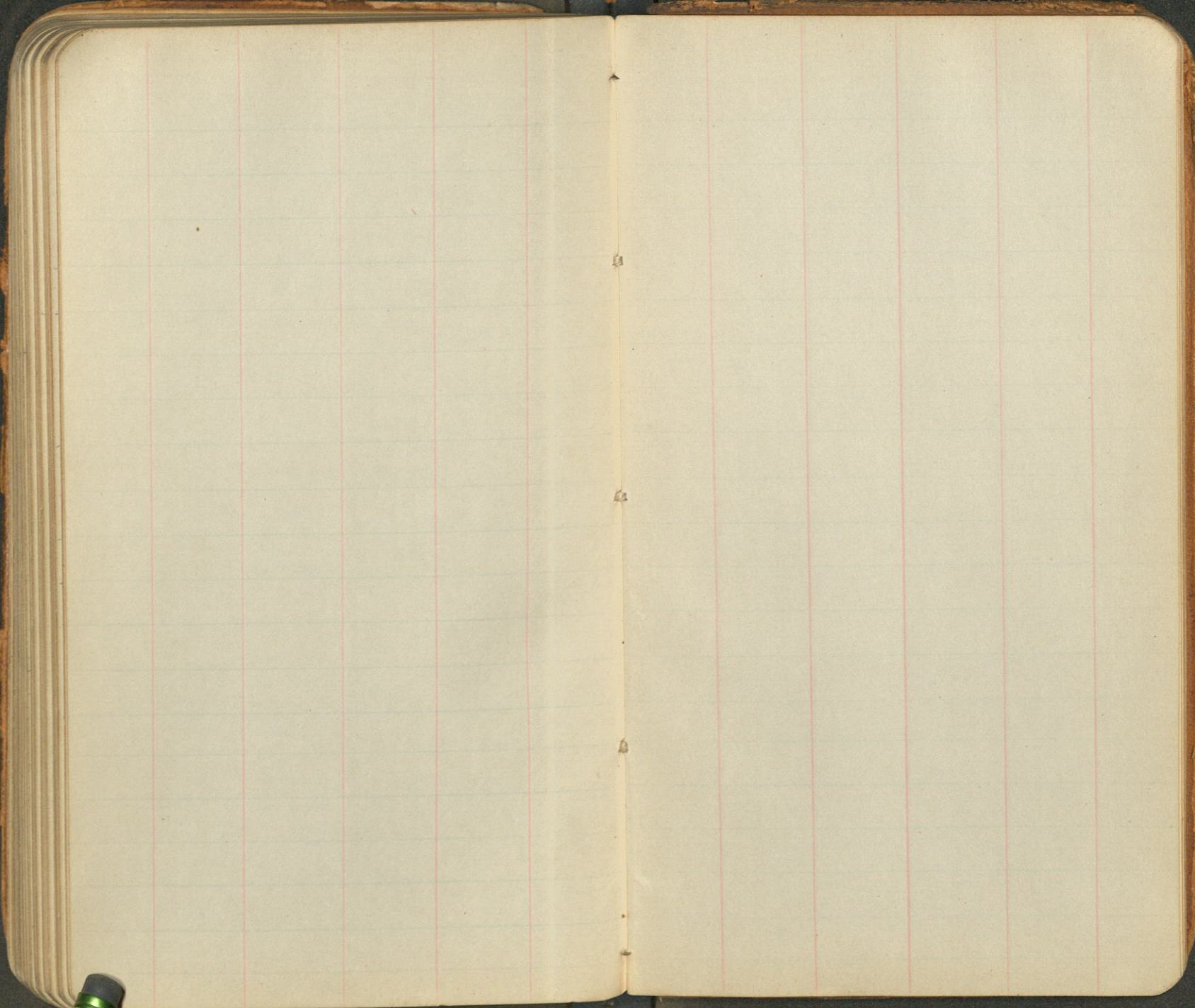
F. W. Kisel (Pres.) F. Snook (Sec)

E. H. Gerbert & C. Silva (Trustees)

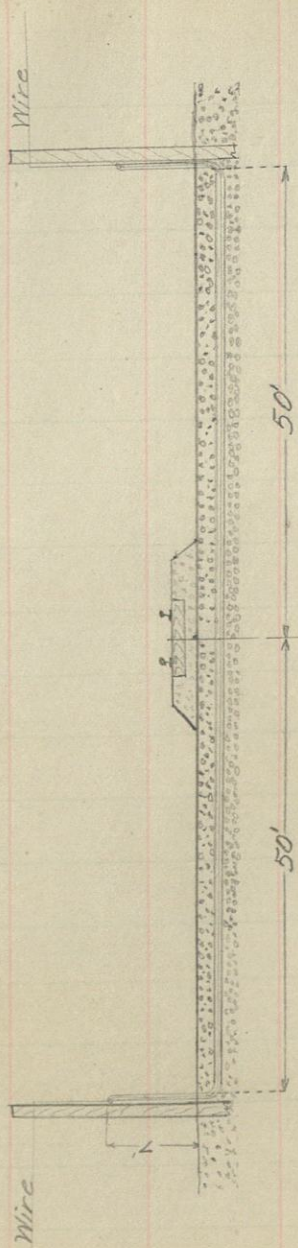
T. W. Hiet W. W. Wooldridge

J. W. Smith owner of M. Houchins property

Mrs. Anna Besso Vardon



D.R.C. #14 Standard Underground Wire X-ing



Pipe should be at least 18" below bottom of tie

Road X-ings

We charge for one car of Gravel + 17
the unloading + distributing of it.

Two Railroad Sings + cost of erecting
them

The individual erects two gates +
keeps them closed he also does
the excavating up to the end of
the ties or to the line

He also signs an agreement
costing \$1 and records it.

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Ha.

Or

Mar

CUBIC YARDS PER 100 FEET—SLOPE $\frac{1}{2}$ TO 1

WIDTH OF ROADBED.											
HEIGHT	14 FEET		16 FEET		18 FEET		20 FEET		22 FEET		HEIGHT
	0.0	0.5	0.0	0.5	0.0	0.5	0.0	0.5	0.0	0.5	
0	0	26	0	30	0	34	0	37	0	41	0
1	53	80	60	91	68	102	75	113	82	124	1
2	107	135	122	154	137	172	152	191	167	210	2
3	163	193	186	219	208	245	231	271	253	297	3
4	222	252	252	285	281	319	311	352	341	385	4
5	282	313	319	354	356	395	393	435	431	476	5
6	344	376	389	424	433	472	478	521	522	569	6
7	408	441	460	496	512	552	564	608	610	663	7
8	474	508	533	571	593	634	652	696	711	760	8
9	542	576	608	646	675	717	742	787	808	858	9
10	611	646	685	724	759	802	833	880	907	958	10
11	682	719	764	804	845	889	927	974	1008	1060	11
12	756	793	844	885	933	978	1022	1071	1111	1163	12
13	831	869	926	969	1023	1069	1119	1169	1216	1269	13
14	907	946	1010	1054	1115	1161	1218	1269	1322	1376	14
15	986	1026	1096	1141	1208	1256	1319	1371	1431	1485	15
16	1067	1108	1184	1230	1304	1352	1422	1474	1541	1597	16
17	1149	1191	1274	1321	1401	1450	1527	1580	1653	1710	17
18	1233	1276	1366	1413	1501	1550	1633	1687	1767	1824	18
19	1319	1363	1460	1509	1601	1652	1742	1796	1882	1941	19
20	1407	1452	1555	1604	1704	1756	1852	1908	2000	2060	20
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22	1589	1635	1752	1802	1915	1969	2078	2135	2241	2302	22
23	1682	1730	1853	1904	2023	2078	2193	2252	2364	2426	23
24	1778	1826	1955	2008	2133	2189	2311	2371	2489	2552	24
25	1875	1924	2060	2113	2245	2302	2431	2491	2616	2680	25
26	1974	2024	2166	2221	2359	2417	2552	2613	2744	2809	26
27	2075	2126	2274	2330	2475	2534	2675	2737	2875	2941	27
28	2178	2230	2384	2441	2593	2652	2800	2863	3007	3074	28
29	2282	2335	2496	2554	2712	2772	2927	2991	3142	3209	29
30	2389	2443	2610	2669	2833	2895	3056	3121	3278	3346	30
31	2497	2552	2726	2785	2956	3019	3186	3252	3416	3485	31
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38	3307	3369	3589	3654	3870	3939	4152	4224	4433	4509	38
39	3431	3493	3719	3785	4008	4078	4297	4371	4586	4663	39
40	3556	3619	3852	3919	4148	4219	4444	4519	4741	4819	40
41	3682	3746	3986	4054	4290	4361	4593	4669	4897	4976	41
42	3811	3876	4122	4191	4433	4506	4744	4821	5056	5135	42
43	3942	4008	4260	4330	4579	4652	4897	4974	5216	5296	43
44	4074	4141	4400	4471	4726	4800	5052	5130	5378	5459	44
45	4208	4276	4541	4613	4875	4950	5208	5287	5542	5624	45
46	4344	4413	4684	4758	5026	5102	5367	5446	5707	5791	46
47	4482	4552	4830	4904	5179	5256	5527	5608	5875	5959	47
48	4622	4693	4978	5052	5333	5411	5689	5771	6044	6130	48
49	4764	4835	5127	5202	5490	5569	5853	5935	6216	6302	49
50	4907	4980	5278	5354	5648	5728	6018	6102	6389	6476	50

CUBIC YARDS PER 100 FEET—SLOPE 1/2 TO 1.

HEIGHT	WIDTH OF ROADBED.										HEIGHT
	14 FEET		16 FEET		18 FEET		20 FEET		22 FEET		
	0.0	0.5	0.0	0.5	0.0	0.5	0.0	0.5	0.0	0.5	
0	0	26	0	30	0	34	0	37	0	41	0
1	54	82	61	93	69	104	76	115	83	126	1
2	111	141	126	160	141	178	156	197	170	215	2
3	172	204	194	230	217	256	239	282	261	308	3
4	237	271	267	304	296	337	326	371	356	404	4
5	306	341	343	382	380	423	417	463	454	504	5
6	378	415	422	463	467	511	511	560	556	608	6
7	454	493	506	549	557	604	609	660	661	715	7
8	533	574	593	637	652	700	711	763	770	826	8
9	617	660	683	730	750	800	817	871	883	941	9
10	704	749	778	826	852	904	926	982	1000	1060	10
11	794	841	876	926	957	1011	1039	1097	1120	1182	11
12	889	937	978	1030	1067	1123	1156	1215	1244	1308	12
13	987	1037	1083	1137	1180	1237	1276	1337	1372	1437	13
14	1089	1141	1193	1249	1296	1356	1400	1463	1504	1571	14
15	1194	1249	1306	1363	1417	1478	1528	1593	1639	1708	15
16	1304	1360	1422	1482	1541	1604	1650	1726	1779	1849	16
17	1417	1474	1543	1604	1669	1724	1794	1863	1920	1993	17
18	1533	1593	1667	1730	1800	1867	1933	2004	2067	2141	18
19	1654	1715	1794	1860	1935	2004	2076	2149	2217	2293	19
20	1778	1841	1926	1993	2074	2145	2222	2297	2370	2449	20
21	1906	1971	2061	2131	2217	2289	2372	2449	2528	2608	21
22	2037	2104	2200	2271	2363	2437	2526	2604	2689	2771	22
23	2172	2241	2343	2415	2513	2589	2683	2763	2854	2937	23
24	2311	2382	2489	2563	2667	2745	2844	2928	3022	3108	24
25	2454	2526	2639	2715	2824	2904	3009	3093	3194	3282	25
26	2600	2674	2793	2871	2985	3067	3178	3263	3370	3460	26
27	2750	2826	2950	3030	3150	3234	3350	3437	3550	3641	27
28	2904	2982	3111	3193	3319	3404	3526	3615	3733	3826	28
29	3061	3142	3276	3360	3491	3578	3700	3797	3920	4015	29
30	3222	3304	3444	3530	3667	3756	3889	3982	4111	4208	30
31	3387	3471	3617	3704	3846	3937	4076	4171	4306	4404	31
32	3556	3641	3793	3882	4030	4123	4267	4363	4504	4604	32
33	3728	3815	3972	4063	4217	4312	4461	4560	4706	4808	33
34	3904	3993	4156	4249	4407	4504	4659	4760	4911	5015	34
35	4083	4174	4343	4437	4602	4700	4861	4963	5120	5226	35
36	4267	4360	4533	4630	4800	4900	5067	5171	5333	5441	36
37	4454	4549	4722	4826	5002	5104	5276	5382	5550	5660	37
38	4644	4741	4926	5026	5207	5312	5489	5597	5770	5882	38
39	4839	4937	5128	5230	5417	5523	5706	5815	5994	6108	39
40	5037	5137	5333	5437	5630	5737	5926	6037	6222	6337	40
41	5239	5341	5543	5649	5846	5956	6150	6263	6454	6571	41
42	5444	5549	5756	5863	6067	6178	6378	6493	6689	6808	42
43	5654	5760	5972	6082	6291	6404	6609	6726	6928	7049	43
44	5867	5974	6193	6304	6519	6633	6844	6963	7170	7293	44
45	6083	6193	6417	6530	6750	6867	7083	7204	7417	7541	45
46	6304	6415	6644	6760	6985	7104	7326	7449	7667	7793	46
47	6528	6641	6876	6993	7224	7345	7572	7697	7920	8049	47
48	6756	6871	7111	7230	7467	7589	7822	7949	8178	8308	48
49	6987	7104	7350	7470	7713	7837	8076	8204	8439	8571	49
50	7222	7341	7593	7715	7963	8089	8333	8463	8704	8837	50

CUBIC YARDS PER 100 FEET—SLOPE 1 TO 1.

HEIGHT	WIDTH OF ROADBED.										HEIGHT
	14 FEET		16 FEET		18 FEET		20 FEET		22 FEET		
	0.0	0.5	0.0	0.5	0.0	0.5	0.0	0.5	0.0	0.5	
0	0	27	0	30	0	34	0	38	0	42	0
1	56	86	63	97	70	108	78	119	85	131	1
2	119	153	133	171	148	190	163	208	178	227	2
3	189	227	211	253	233	279	256	305	278	331	3
4	267	308	296	342	326	375	356	408	385	442	4
5	352	397	389	438	426	479	463	519	500	560	5
6	444	493	489	542	533	590	578	638	622	686	6
7	544	597	596	653	648	708	700	764	752	819	7
8	652	708	711	771	770	834	830	897	889	960	8
9	767	826	833	897	900	968	967	1038	1033	1108	9
10	889	953	963	1031	1037	1108	1111	1186	1185	1264	10
11	1019	1086	1100	1171	1181	1256	1263	1342	1344	1427	11
12	1156	1227	1244	1319	1333	1412	1422	1505	1511	1597	12
13	1300	1375	1396	1475	1493	1575	1589	1675	1685	1775	13
14	1452	1530	1556	1638	1659	1745	1763	1853	1867	1960	14
15	1611	1693	1722	1808	1833	1923	1944	2038	2056	2153	15
16	1778	1864	1896	1986	2015	2108	2133	2231	2252	2353	16
17	1952	2042	2078	2171	2204	2301	2330	2431	2456	2560	17
18	2133	2227	2267	2364	2400	2501	2533	2638	2667	2775	18
19	2322	2419	2463	2564	2604	2708	2744	2853	2885	2997	19
20	2519	2619	2667	2771	2815	2923	2963	3075	3111	3227	20
21	2722	2827	2878	2986	3033	3145	3189	3305	3344	3464	21
22	2933	3042	3096	3208	3259	3375	3422	3542	3585	3708	22
23	3152	3264	3322	3438	3493	3612	3663	3786	3833	3960	23
24	3378	3493	3556	3675	3733	3856	3911	4038	4089	4219	24
25	3611	3730	3796	3919	3981	4108	4167	4297	4352	4486	25
26	3852	3975	4044	4171	4237	4368	4430	4564	4622	4760	26
27	4100	4227	4300	4431	4507	4634	4700	4838	4900	5042	27
28	4356	4486	4563	4697	4770	4908	4978	5119	5185	5331	28
29	4619	4753	4833	4971	5048	5190	5263	5408	5478	5627	29
30	4889	5027	5111	5253	5333	5479	5556	5705	5778	5931	30
31	5167	5308	5396	5542	5626	5775	5866	6008	6085	6242	31
32	5452	5597	5689	5838	5926	6079	6163	6319	6400	6560	32
33	5744	5893	5989	6142	6233	6390	6478	6638	6722	6886	33
34	6044	6197	6296	6453	6548	6708	6800	6964	7052	7219	34
35	6352	6508	6611	6771	6870	7034	7130	7297	7389	7560	35
36	6667	6827	6933	7097	7200	7368	7467	7638	7733	7908	36
37	6989	7153	7263	7431	7537	7708	7811	7986	8085	8264	37
38	7319	7486	7600	7771	7881	8056	8163	8342	8444	8627	38
39	7656	7827	7944	8119	8223	8412	8522	8705	8811	8997	39
40	8000	8175	8296	8475	8593	8775	8889	9075	9185	9375	40
41	8352	8530	8656	8838	8959	9145	9263	9453	9567	9760	41
42	8711	8893	9022	9208	9333	9523	9644	9838	9956	10153	42
43	9078	9264	9396	9586	9715	9908	10033	10231	10352	10553	43
44	9452	9642	9778	9971	10104	10301	10430	10631	10756	10960	44
45	9833	10027	10167	10364	10500	10701	10833	11038	11167	11375	45
46	10222	10419	10563	10764	10904	11108	11244	11453	11585	11797	46
47	10619	10810	10967	11171	11315	11523	11663	11875	12011	12227	47
48	11022	11227	11378	11586	11733	11945	12089	12305	12444	12664	48
49	11433	11642	11796	12008	12159	12375	12522	12742	12886	13108	49
50	11852	12064	12222	12438	12593	12812	12963	13186	13333	13560	50

CUBIC YARDS PER 100 FEET—SLOPE $\frac{1}{2}$ TO 1.

HEIGHT	WIDTH OF ROADBED.										HEIGHT
	14 FEET		16 FEET		18 FEET		20 FEET		22 FEET		
	0.0	0.5	0.0	0.5	0.0	0.5	0.0	0.5	0.0	0.5	
0	0	27	0	31	0	35	0	38	0	42	0
1	57	90	65	101	72	112	80	124	87	135	1
2	126	164	141	183	155	201	170	220	185	238	2
3	206	249	228	275	250	301	272	327	294	353	3
4	296	346	326	379	355	412	385	446	415	479	4
5	398	453	435	494	472	535	509	575	546	616	5
6	511	572	556	620	600	668	644	716	689	764	6
7	635	701	687	757	739	812	791	868	843	924	7
8	770	842	830	905	889	968	948	1031	1007	1094	8
9	917	994	983	1064	1050	1135	1117	1205	1183	1275	9
10	1074	1157	1148	1235	1222	1312	1296	1390	1370	1468	10
11	1243	1331	1324	1416	1405	1501	1487	1588	1568	1672	11
12	1422	1516	1511	1609	1600	1701	1689	1794	1778	1887	12
13	1613	1712	1709	1812	1805	1912	1902	2012	1998	2112	13
14	1815	1920	1918	2027	2022	2135	2126	2242	2230	2350	14
15	2028	2138	2139	2253	2259	2368	2361	2483	2472	2598	15
16	2252	2368	2370	2490	2489	2612	2607	2735	2726	2857	16
17	2487	2609	2613	2738	2739	2868	2865	2998	2991	3127	17
18	2733	2861	2867	2998	3000	3135	3133	3272	3267	3409	18
19	2991	3124	3131	3268	3272	3412	3413	3557	3554	3701	19
20	3259	3398	3407	3549	3555	3701	3704	3853	3852	4005	20
21	3539	3683	3694	3842	3850	4001	4005	4161	4161	4320	21
22	3830	3979	3993	4146	4155	4312	4318	4479	4481	4646	22
23	4131	4287	4302	4461	4472	4635	4643	4809	4813	4983	23
24	4444	4605	4622	4787	4800	4968	4978	5149	5155	5331	24
25	4768	4935	4954	5124	5139	5312	5324	5501	5509	5690	25
26	5104	5275	5296	5472	5489	5668	5681	5864	5874	6061	26
27	5450	5627	5650	5831	5850	6035	6050	6238	6250	6442	27
28	5807	5990	6015	6201	6222	6412	6430	6624	6637	6835	28
29	6176	6364	6391	6583	6605	6801	6820	7020	7035	7238	29
30	6556	6750	6778	6975	7000	7201	7222	7427	7444	7653	30
31	6946	7146	7176	7379	7405	7612	7635	7846	7865	8079	31
32	7348	7553	7585	7794	7822	8035	8069	8275	8296	8516	32
33	7761	7972	8006	8220	8250	8468	8494	8716	8739	8964	33
34	8185	8401	8437	8657	8689	8912	8941	9168	9193	9424	34
35	8620	8842	8880	9105	9139	9368	9398	9631	9657	9894	35
36	9067	9294	9333	9564	9600	9835	9867	10105	10133	10375	36
37	9524	9757	9798	10035	10072	10312	10346	10590	10620	10868	37
38	9993	10231	10274	10516	10555	10801	10837	11087	11118	11372	38
39	10472	10716	10761	11009	11050	11301	11339	11594	11628	11887	39
40	10963	11212	11259	11512	11555	11812	11852	12112	12148	12412	40
41	11465	11720	11769	12027	12072	12335	12376	12642	12680	12950	41
42	11978	12238	12289	12553	12600	12868	12911	13183	13222	13498	42
43	12502	12768	12820	13090	13139	13412	13457	13735	13776	14057	43
44	13037	13309	13363	13638	13689	13968	14015	14298	14341	14627	44
45	13583	13861	13917	14198	14250	14535	14583	14872	14917	15209	45
46	14141	14423	14481	14768	14822	15112	15163	15457	15504	15801	46
47	14709	14998	15057	15349	15406	15701	15754	16053	16102	16405	47
48	15289	15583	15644	15942	16000	16301	16356	16661	16711	17020	48
49	15880	16179	16243	16546	16606	16912	16968	17280	17331	17646	49
50	16481	16787	16852	17161	17222	17534	17592	17909	17963	18283	50

WOODEN BEAMS AND COLUMNS

SAFE LOADS UNIFORMLY DISTRIBUTED FOR RECTANGULAR SPRUCE OR WHITE PINE BEAMS ONE INCH THICK

For oak increase values in table by 1. For yellow pine increase values in table by 1.

Span in Feet.	DEPTH OF BEAM.										
	6"	7"	8"	9"	10"	11"	12"	13"	14"	15"	16"
5	600	830	1070	1350	1670	2020	2400	2820	3270	3750	4270
6	500	680	880	1120	1380	1680	2000	2350	2730	3120	3560
7	430	580	760	960	1190	1440	1710	2010	2330	2680	3050
8	380	510	670	840	1040	1250	1500	1760	2040	2340	2670
9	350	460	620	790	980	1190	1400	1660	1940	2240	2570
10	300	410	530	670	830	1010	1200	1410	1630	1880	2130
11	270	370	490	610	760	920	1090	1280	1490	1710	1940
12	250	340	440	560	690	840	1000	1180	1390	1560	1780
13	230	310	410	520	640	780	930	1080	1260	1440	1640
14	210	290	380	480	590	720	860	1010	1170	1340	1530
15	200	270	360	450	560	670	800	940	1090	1250	1420
16	190	260	330	420	520	630	750	880	1020	1180	1330
17	180	240	310	400	490	590	710	830	960	1100	1250
18	170	230	290	370	460	560	670	780	910	1040	1190
19	160	210	280	360	440	530	630	740	860	990	1130
20	150	200	270	340	420	510	600	710	820	940	1070
21	140	190	260	320	390	480	570	670	780	890	1020
22	130	180	240	310	380	460	540	640	740	850	970
23	120	170	230	290	350	430	510	610	710	810	920
24	110	160	220	280	350	420	500	590	690	790	890
25	100	150	210	270	330	410	480	560	660	750	860
26	90	140	200	260	320	390	460	540	630	720	830
27	80	130	190	250	310	370	440	520	610	690	790
28	70	120	180	240	300	360	430	500	580	670	760
29	60	110	170	230	290	350	420	490	570	650	740

To obtain the safe load for any thickness: Multiply values for 1 inch by thickness of beam.
To obtain the required thickness for any load: Divide by safe load for 1 inch.

SAFE LOADS IN TONS OF 2,000 LBS. FOR SQUARE WOODEN PILLARS

Unsupported Length of Column in Feet.	SIZE OF PILLAR IN INCHES.						
	6x6	8x8	9x9	10x10	12x12	14x14	16x16
WHITE PINE OR SPRUCE							
6	12.80						
8	11.70	22.7					
10	10.60	21.3	29.6		35.5		
12	9.54	19.8	26.3		33.7		
14	8.46	18.4	24.7		31.9		
16	7.38	17.0	23.1		30.1		
18		15.5	21.5		28.3		
20		14.1	19.8		26.5		
22			18.2		24.7		
24					22.9		
WHITE OAK							
6	14.80						
8	13.50	26.2					
10	12.20	24.6	34.0		41.0		
12	11.00	22.7	30.4		39.1		
14	9.73	21.1	28.4		37.7		
16	8.64	19.5	26.5		34.6		
18		17.8	24.7		32.4		
20		16.3	22.7		30.5		
22			21.1		28.2		
24					26.4		
YELLOW PINE (SOUTHERN)							
6	18.0						
8	16.4	32.0					
10	14.9	29.9	39.4		50.0		
12	13.3	27.8	36.9		47.6		
14	11.9	25.8	34.7		44.7		
16	10.4	23.7	32.3		42.3		
18		21.8	30.5		40.5		
20		19.8	27.8		37.0		
22			25.0		34.6		
24					32.2		

To obtain safe load for round posts of same diameters, take 75 per cent of above.

CONCRETE **BY PERMISSION OF MESSRS. TAYLOR & THOMPSON.**

Quantities of Materials for one cubic yard of Rammed Concrete, based on a barrel of 3.8 cubic feet.

Proportions by parts	Cement	Sand	Stone	Proportions by volume	Packed Cement	Loose Cement	Loose Sand	Loose Stone	Volume of Mortar in terms of percentage of volume of concrete	Percentages of Voids in Broken Stone or Gravel.											
										50%*				45%†				30%‡			
										Cement	Sand	Stone	CEMENT	SAND	STONE	Cement	Sand	Stone	Cement	Sand	Stone
				bbl.	cu. ft.	cu. ft.	cu. ft.	per cent		bbl.	cu. yd.	cu. yd.	bbl.	cu. yd.	cu. yd.	bbl.	cu. yd.	cu. yd.	bbl.	cu. yd.	cu. yd.
1	1	1	1	3.8	94	5.09	0.72	1.90	0.69	1.73	0.67	1.33	0.61	1.02	0.57						
1	1	2	1	7.6	51	3.67	1.03	3.48	0.98	3.36	0.93	2.93	0.82	2.65	0.75						
1	1	3	1	11.4	36				1.14	2.54	1.07	2.22	0.94	1.98	0.84						
1	1	4	1	15.2	29				1.78				1.00	1.89	0.89						
1	1	5	1	19.0	25				1.49				1.09	3.31	0.92						
1	1	6	1	22.8	22				1.08	1.12			0.98		0.95						
1	1	7	1	26.6	20				0.87				0.78		0.98						
1	1	8	1	30.4	19				0.78				0.78		0.99						
1	1	9	1	34.2	18				0.71				0.71		1.00						
1	1	10	1	38.0	17				0.65				0.65		1.01						
1	1	11	1	41.8	16				0.60				0.60		1.01						
1	1	12	1	45.6	15																
1	1	13	1	49.4	14																
1	1	14	1	53.2	13																
1	1	15	1	57.0	12																
1	1	16	1	60.8	11																
1	1	17	1	64.6	10																
1	1	18	1	68.4	9																
1	1	19	1	72.2	8																
1	1	20	1	76.0	7																
1	1	21	1	79.8	6																
1	1	22	1	83.6	5																
1	1	23	1	87.4	4																
1	1	24	1	91.2	3																
1	1	25	1	95.0	2																
1	1	26	1	98.8	1																
1	1	27	1	102.6																	
1	1	28	1	106.4																	
1	1	29	1	110.2																	
1	1	30	1	114.0																	
1	1	31	1	117.8																	
1	1	32	1	121.6																	
1	1	33	1	125.4																	
1	1	34	1	129.2																	
1	1	35	1	133.0																	
1	1	36	1	136.8																	
1	1	37	1	140.6																	
1	1	38	1	144.4																	
1	1	39	1	148.2																	
1	1	40	1	152.0																	
1	1	41	1	155.8																	
1	1	42	1	159.6																	
1	1	43	1	163.4																	
1	1	44	1	167.2																	
1	1	45	1	171.0																	
1	1	46	1	174.8																	
1	1	47	1	178.6																	
1	1	48	1	182.4																	
1	1	49	1	186.2																	
1	1	50	1	190.0																	
1	1	51	1	193.8																	
1	1	52	1	197.6																	
1	1	53	1	201.4																	
1	1	54	1	205.2																	
1	1	55	1	209.0																	
1	1	56	1	212.8																	
1	1	57	1	216.6																	
1	1	58	1	220.4																	
1	1	59	1	224.2																	
1	1	60	1	228.0																	
1	1	61	1	231.8																	
1	1	62	1	235.6																	
1	1	63	1	239.4																	
1	1	64	1	243.2																	
1	1	65	1	247.0																	
1	1	66	1	250.8																	
1	1	67	1	254.6																	
1	1	68	1	258.4																	
1	1	69	1	262.2																	
1	1	70	1	266.0																	
1	1	71	1	269.8																	
1	1	72	1	273.6																	
1	1	73	1	277.4																	
1	1	74	1	281.2																	
1	1	75	1	285.0																	
1	1	76	1	288.8																	
1	1	77	1	292.6																	
1	1	78	1	296.4																	
1	1	79	1	300.2																	
1	1	80	1	304.0																	
1	1	81	1	307.8																	
1	1	82	1	311.6																	
1	1	83	1	315.4																	
1	1	84	1	319.2																	
1	1	85	1	323.0																	
1	1	86	1	326.8																	
1	1	87	1	330.6																	
1	1	88	1	334.4																	
1	1	89	1	338.2																	
1	1	90	1	342.0																	
1	1	91	1	345.8																	
1	1	92	1	349.6																	
1	1	93	1	353.4																	
1	1	94	1	357.2																	
1	1	95	1	361.0																	
1	1	96	1	364.8																	
1	1	97	1	368.6																	
1	1	98	1	372.4																	
1	1	99	1	376.2																	
1	1	100	1	380.0																	

NOTE.—Variations in the fineness of the sand and the compacting of the concrete may affect the quantities by 10 per cent in either direction.
 *Use 50 per cent columns for broken stone screened to uniform size.
 †Use 45 per cent columns for average conditions and for broken stone with dust screened out.
 ‡Use 40 per cent columns for gravel or mixed stone and gravel.
 §Use these columns for scientifically graded mixtures.

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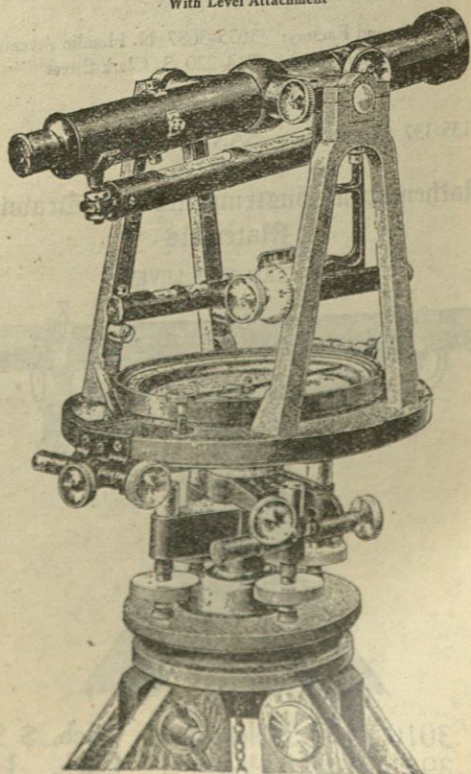
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